RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

A.A.R. Purchases and Stores Division
Convention Proceedings Number

JUNE 11, 1951

Copy 3 9 11 51

Improve DROP DOOR OPERATION...

IER CLOSING
FER HANDLING
OSITIVE FIT..

SPRING HINGES
and
ADJUSTABLE LOCKS

THE WINE RAILWAY APPLIANCE CO. TOLEDO 9, OHIO

BUFFALO TRUSLOCK

is a completely new hangered-type brake beam for maintenance and repair service. A sturdy, rugged No. 18 brake beam, Truslock offers the added advantage of a quick-change brake head, permitting the replacement of worn or damaged brake heads right at the car. As brake head replacements account for more than half of the brake beams requiring reclamation, this exclusive Truslock feature will effect a significant reduction in your brake beam maintenance costs.

Hangerless type (Unit) trucks are now the overwhelming choice for new freight car construction, and the Buffalo Solid Truss Unit Brake Beam is the preferred brake beam for this ultra-modern system of brake rigging. Designed and developed by the original sponsors of the Unit Truck itself, Buffalo Unit Brake Beams bring you a 10-year record of million-mile-plus service to the railroads and private car lines. When you order hangerless beams be sure you specify—

BUFFALO UNIT

Don't Scrap PROFITS— from Scrap!

Today your DORMANT SCRAP* means more steel to help meet all-time high defense and domestic demands. Your country NEEDS it!

Today your DORMANT SCRAP* commands high prices.

HOW TO TURN SCRAP INTO MONEY...

with an organized dormant-scrap round-up in your plant:

1. Appoint a top executive with authority to make decisions to head the salvage drive.
2. Organize a Salvage Committee and include a member from every department.
3. Survey and resurvey your plant for untapped sources of dormant scrap. Encourage your employees to look for miscellaneous scrap and report it to the committee.
4. Sell your entire organization on the need to scrap unusable material and equipment.
5. Prepare a complete inventory of idle material and equipment. Tag everything not in use.
6. Start it back to the steel mills by selling it to your regular scrap dealer.
7. **KEEP AT IT!**

* Your DORMANT SCRAP is any obsolete, broken or wornout and irreparable machinery, tools, equipment, dies, jigs or fixtures, etc., that may encumber your premises. These, in the language of steel, are *scrap*, vital to steel production, and hence convertible into cash.

Steel is normally made from scrap and new pig iron in about a 50-50 ratio. The use of scrap means *better* steel, *faster* . . . because scrap has already undergone one refining process. Today under pressure of domestic and defense demands, the steel industry is consuming purchased scrap at the rate of 100,000 tons per day . . . an all-time high. *Your* dormant iron and steel scrap is *urgently* needed.

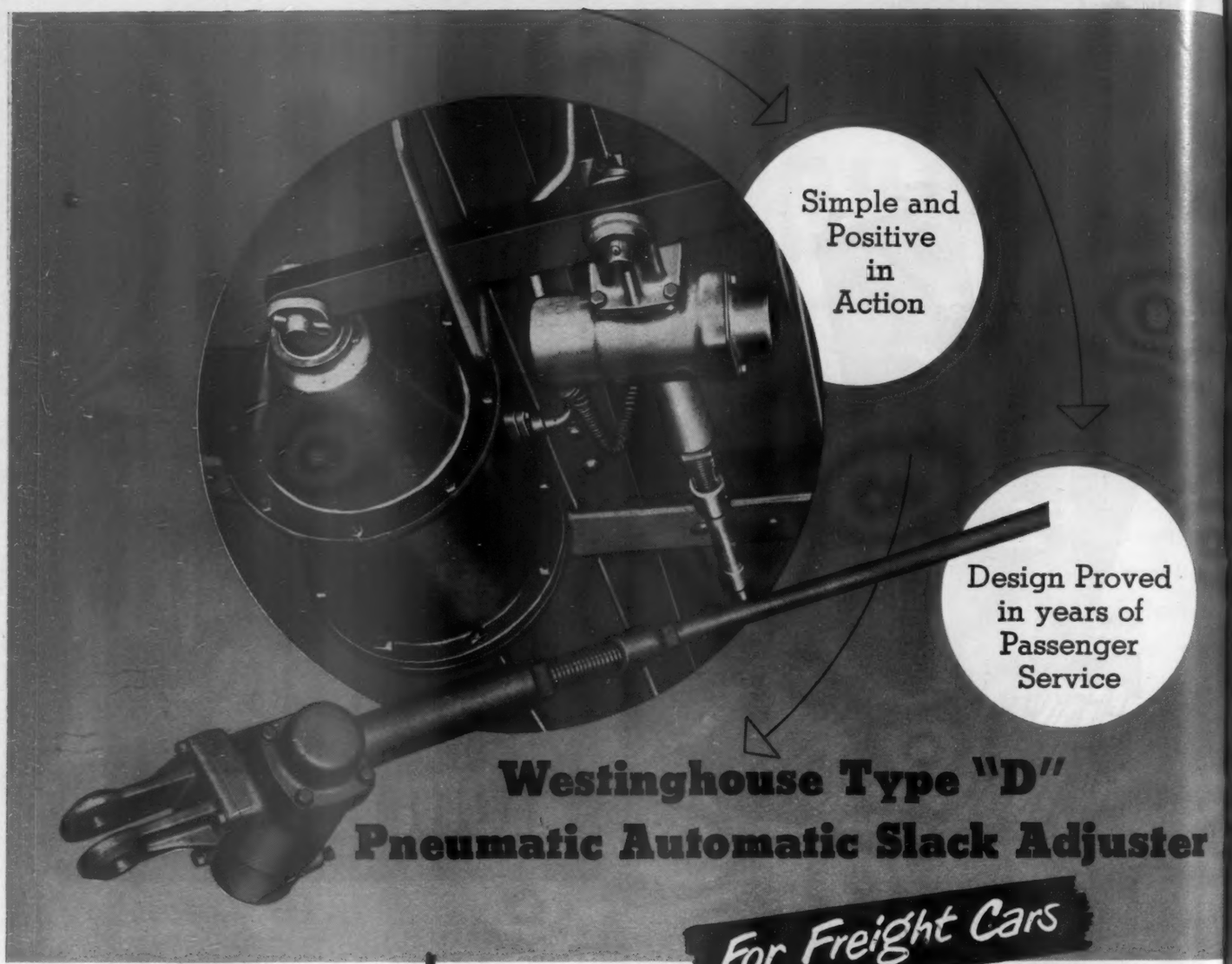
Round-up and sale of your dormant scrap NOW will benefit you, all steel users, and our country by:

1. Keeping the steel furnaces producing at their highest rate in history.
2. Conserving our vital iron ore reserves. The *more* scrap used in steelmaking, the *less* ore needed.
3. Making *better* steel, *faster*.

INLAND

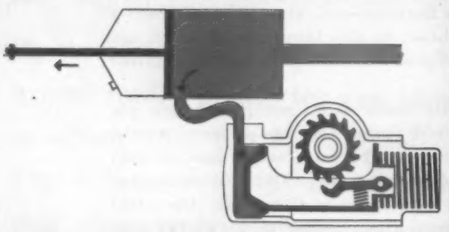
INLAND STEEL COMPANY

38 South Dearborn Street • Chicago 3, Illinois

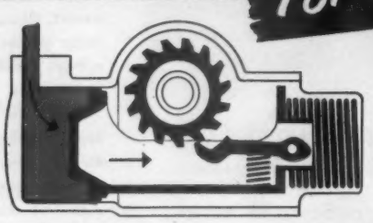


Westinghouse Type "D" Pneumatic Automatic Slack Adjuster

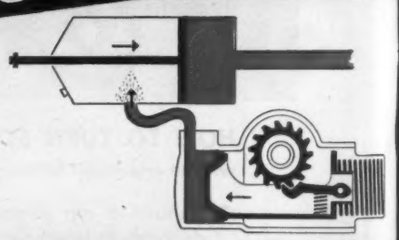
For Freight Cars



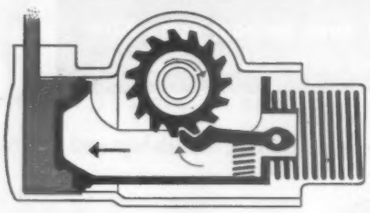
Excess Brake Cylinder Piston Travel uncovers port—admits air to slack adjuster cylinder.



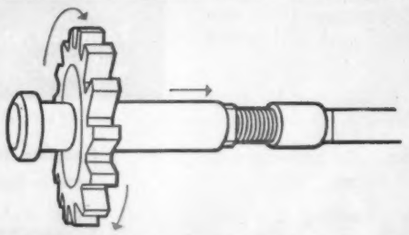
Air moves piston, and associated parts, compressing spring.



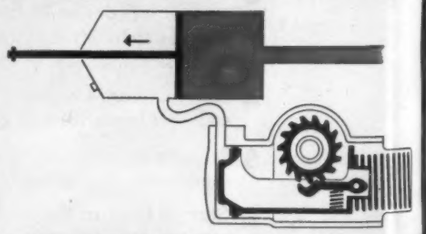
When brake is released, air in adjuster cylinder is vented, and spring returns piston.



Upon return of piston, pawl advances Ratchet Nut one tooth.



Movement of nut shortens tie-rod connection, taking up slack.



Action occurs with each brake application, maintaining piston travel at proper value.

Ask for Leaflet 2468

Westinghouse Air Brake Co.

WILMERDING, PA.

Vol. 130 No. 23 June 11, 1951

RAILWAY AGE

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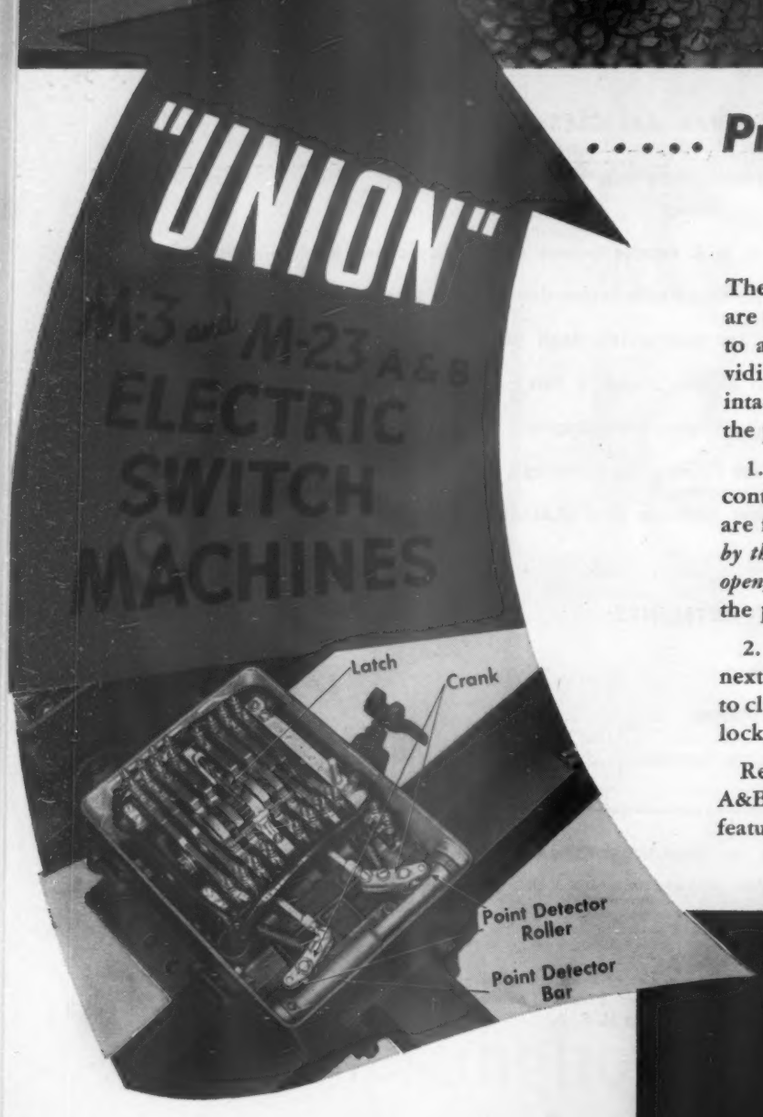

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WEEK AT A GLANCE

BUSY TIME: With the annual spring convention season in full swing, these are busy days for a lot of railroad men. The Freight Claim Division of the A.A.R. has recently held its annual meeting at San Francisco, while the Purchases & Stores Division and Safety Section have just concluded their yearly sessions at Chicago and Detroit, respectively. Next week it's the Accounting Division at New York and the superintendents at Chicago. Highlights of the Freight Claim meeting are covered on pages 63-65, while a detailed account of proceedings of the P. & S. Division—which considered conservation of materials, manpower and time—begins on page 66. Reports of the Safety Section and Accounting Division meetings are scheduled for next week's issue.

"EMPIRE BUILDERS": Beginning on page 56, a complete, and fully illustrated, description of the new passenger cars built by Pullman and A.C.F. for the Great Northern's re-equipped "Empire Builders"—which, as reported in last week's issue, team up with the new "Western Star" to provide the first double-daily streamline service ever offered on one railroad route between Chicago and the Pacific Northwest.

A LITTLE MORE STEEL: As D. T. Administrator Knudson told the P. & S. convention, and as is further detailed in the news columns, it looks as though there would be "a little more steel" available for railroad equipment during the third quarter. The "little more" would permit, it is understood, production of 275 locomotives a month instead of 250, and of 9,500 freight cars instead of the 7,600 which had been talked about.

EFFECT OF HIGHER COSTS: Estimated earnings of Class I Railroads for 1951's first four months have just been released by the A.A.R. As summarized in the news pages, they are pretty conclusive evidence of the adverse effect on railroad earnings of recent wage increases and of higher material prices and heavier taxes. In April, for example, gross was up over 19 per cent compared with April 1950—but N.R.O.I. and net were up only about 12½ per cent. The four months' showing was, relatively, a little better, *but—both* April *and* the first four months of 1950 were periods of comparatively depressed traffic.

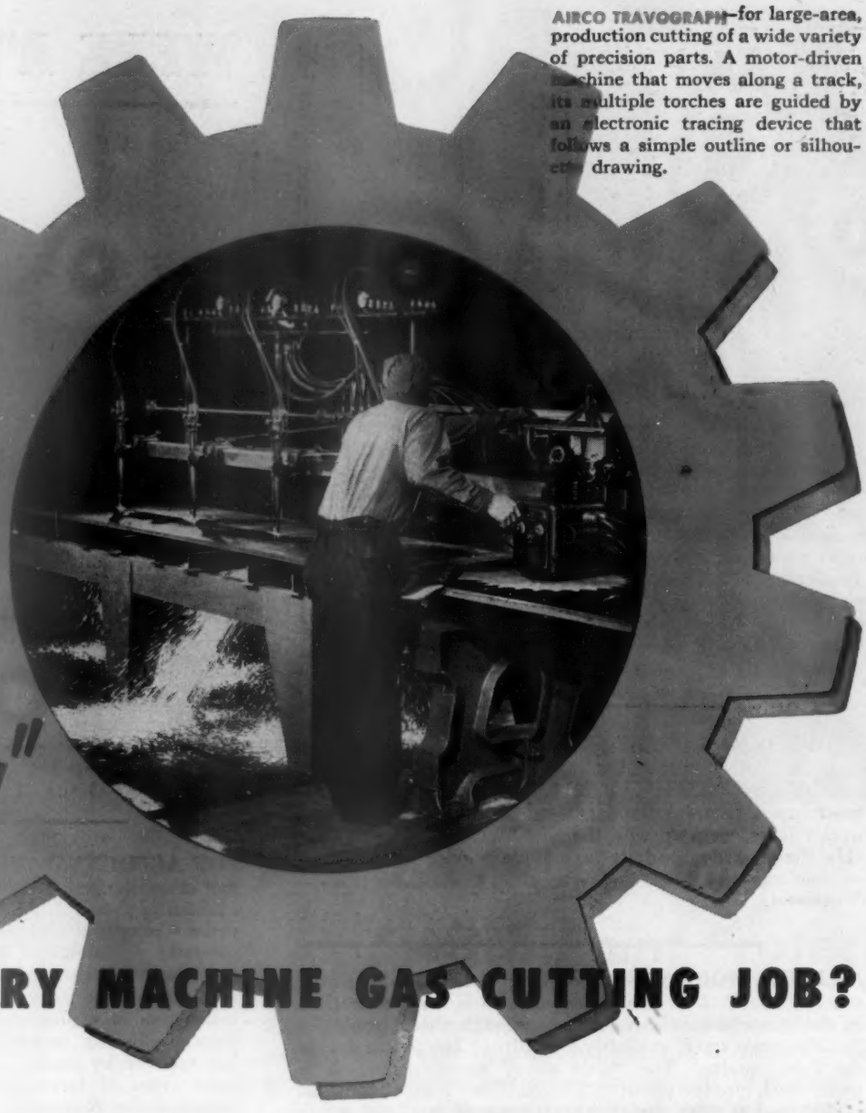
PRESIDENTIAL CHANGES: Revelle W. Brown, president of the Reading since 1944, is reported to have told stockholders of that company, at their annual meeting on June 5, that he hopes to retire next August 31, at which time he will have completed more than 50 years of railroad service. Mr. Brown is expected to continue, however, as chairman of the Reading's executive committee, to which position he was recently elected. (*Railway Age*, May 28, page 72.) J. A. Fisher, executive vice-president, is generally considered as Mr. Brown's probable successor. Meantime, as reported in the news columns of this issue, H. J. McKenzie, executive vice-president of the Cotton Belt, will take over the presidency of that road on July 1, succeeding Col. F. W. Green, who retires on that date. And, by the time this issue reaches you, the New Haven may have elected a successor to Frederic C. Dumaine, Sr.

GOOD CUSTOMERS: The railroad purchasing officers, whose activities at Chicago are reported on page 66, et seq., are among the country's largest buyers of goods and services. In the first three months of 1951, for example, they were responsible for spending over $1 billion, including nearly $450 million for new cars and locomotives. Inflated prices, to be sure, have a good bit to do with the size of the dollar figures—but any way you look at it the railroads are still good customers of nearly all other segments of industry. The detailed figures for March and three months are on pages 73 and 74.

FOR ACCOUNTANTS: In at least partial recognition of the valuable, but sometimes unsung, work of railroad accountants, three of this issue's feature articles deal with various phases of their work. On page 44 is a description, specially prepared for *Railway Age* by L. J. Gosney, of how the Western Pacific helps itself and its accounting employees alike by an intensive program of systematic instruction in various phases of railway accounting. Immediately following, on page 47, is the story of how the B. & O. has reduced by about 75 per cent the cost of duplicating some types of forms and records—a story also specially prepared for *Railway Age* by C. A. Strickland. And on page 50 is Part I of an outline of why the Canadian Pacific prefers a "realistic" "production" or "user" basis, rather than the straight line method, for depreciation accounting. Mr. Gosney's article also provides the starting point for an editorial on page 41.

NEWS ROUNDUP: Clark Hungerford anticipates complete dieselization for entire Frisco system early in 1952, with delivery of units now on order, including 37 just reported in this issue.—Strikes keep May freight car deliveries, at 9,774, from reaching 10,000 goal.—Transportation Corps issues inquiry for 1,000 heavy-duty flat cars.—Thirteen senators ask geographical distribution of I.C.C. members.—B. & O. orders 1,000 box cars; S.P.&S. 500.—Rutland buys six more diesels.—U. S. Circuit Court of Appeals upholds Illinois Central contention that directors have "right of discretion" on payment of dividends.—I.C.C. allows M.P. to inspect reorganization ballots.—Water carriers' 1950 freight revenue 21.5 per cent above 1949.

SMALL YARD: What may be the country's smallest retarder equipped railroad yard has just been completed by the Santa Fe at Pueblo, Colo., as part of a project which also involved line relocation and elimination of a number of grade crossings. The entire project is described and illustrated herein, starting on page 52.



AIRCO TRAVOGRAPH—for large-area, production cutting of a wide variety of precision parts. A motor-driven machine that moves along a track, its multiple torches are guided by an electronic tracing device that follows a simple outline or silhouette drawing.

ARE YOU GETTING "Airco Accuracy" WITH EVERY MACHINE GAS CUTTING JOB?

Whatever your steel cutting problem—from squaring and shaping of large plates and heavy slabs to quantity, precision-cutting of small steel parts—there's an Airco Gas Cutting Machine that's just suited to your needs . , . designed to do the work faster, better, at lower operating cost.

Airco Gas Cutting Machines are made in portable and stationary types, for single or multiple torch operation—all embodying characteristic Airco accuracy, rugged construction and excellent operating performance ... insuring long, trouble-free life under heavy service loads.

Three separate and distinct tracing devices help give the Airco machines their great flexibility and accuracy: manual, magnetic and the fully-automatic "Electronic Bloodhound." With the "Electronic Bloodhound," cuts of the most intricate shapes can be made easily to specified close tolerances.

From an 8-torch Travograph, equipped with an electronic tracing device, to the portable No. 3 Monograph, each Airco Gas Cutting Machine performs a wide variety of cutting jobs within its specific operating range . . . an important feature that has made Airco Gas Cutting Machines outstanding in the metal-working industry.

So, for economy, speed, and accuracy, investigate the possibilities of using any one of the numerous Airco Gas Cutting Machines—select the one best suited to your needs. Please write your nearest Airco office for full details.

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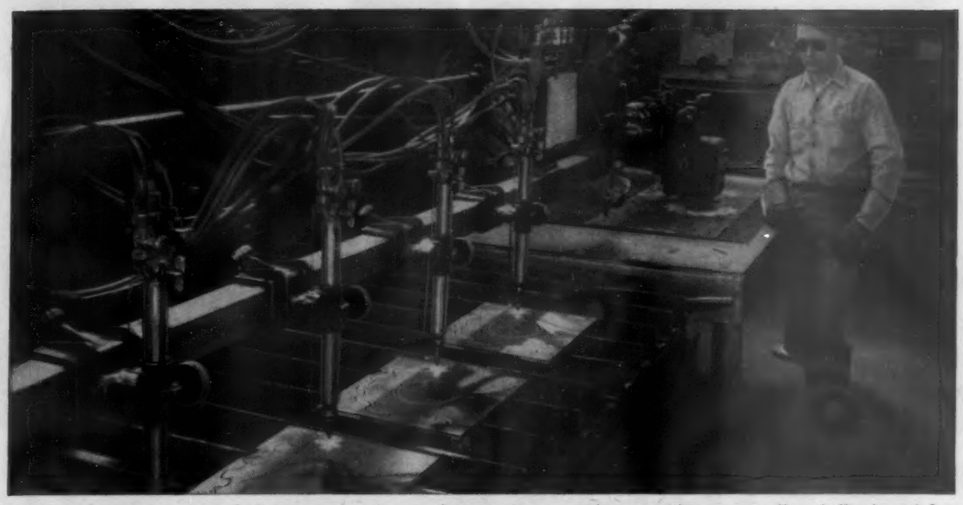
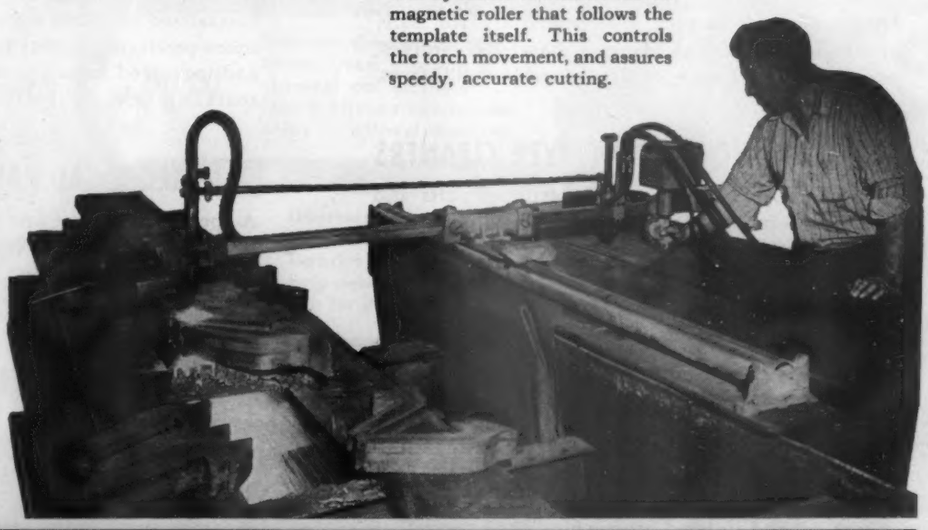


AIRCO OXYGRAPH — one of the most popular stationary shape cutting machines ever offered. Designed for single or multiple torch operation, identical parts of any design are accurately shaped in one operation — either by "stack" cutting or an individual cutting operation.

AIRCO No. 10 RADIAGRAPH — a lightweight, portable, motor-driven machine that is ideal for straight line cutting, squaring, beveling and similar cutting jobs. It cuts arcs and circles up to 85" in dia.

AIRCO No. 5 CAMOGRAPH — ideal for repetitive cutting of small shapes. It cuts parts of any contour by means of a motor-driven magnetic roller that follows the template itself. This controls the torch movement, and assures speedy, accurate cutting.

AIRCO No. 3 MONOGRAPH an inexpensive, portable shape cutting machine. Designed for straight line, circle and bevel cutting jobs in addition to irregular shape cutting—all with a high degree of accuracy. The machine is easily moved from job to job — weighing only 110 lbs.



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The versatile, compact line of Dearborn Cleaners meets every railroad need. Dearborn Cleaners, for use in any water regardless of hardness, have excellent dispersion properties, are free-rinsing, leave no streaks, contain no abrasives.

A Dearborn Engineer will gladly help you streamline your cleaning operation . . . will demonstrate how you can CLEAN with SAFETY by specifying Dearborn Cleaners.

INTERIOR CLEANERS

Detergent and solvent type materials for safe, economical interior cleaning of diesel locomotives, passenger and baggage cars, roundhouses, offices.

ORGANIC SOLVENT TYPE CLEANERS

Compounded for cold cleaning of diesel parts and filters at terminals lacking heating facilities. Also recommended for cleaning diesel trucks, diesel locomotive interiors, traction motor gears, steam locomotive running gear and other parts where excessive oil and grease are present.

HOT TANK CLEANERS

For use on steam locomotive side rods, wheels and other parts that become heavily coated with grease and dirt. Also long life materials for cleaning air filters, oil and sintered bronze filters and specialized formulas for non-ferrous metals.

EXTERIOR CLEANERS

Specialized products containing non-streaking and sheen-producing agents formulated to keep painted and lacquered surfaces and polished metal surfaces sparkling new.

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A special solvent of low toxicity for spray cleaning of electrical cabinet interiors in place, relays, motor windings, other electrical equipment. Removes tarnish and oily film. Will not harm insulation.

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For removing scale from diesel cooling systems and steam generators with specially constructed acid pump. While this formula is designed for removing scale from ferrous metals, it may be safely used for cleaning units constructed of copper, bronze, brass or the alloys of these metals.

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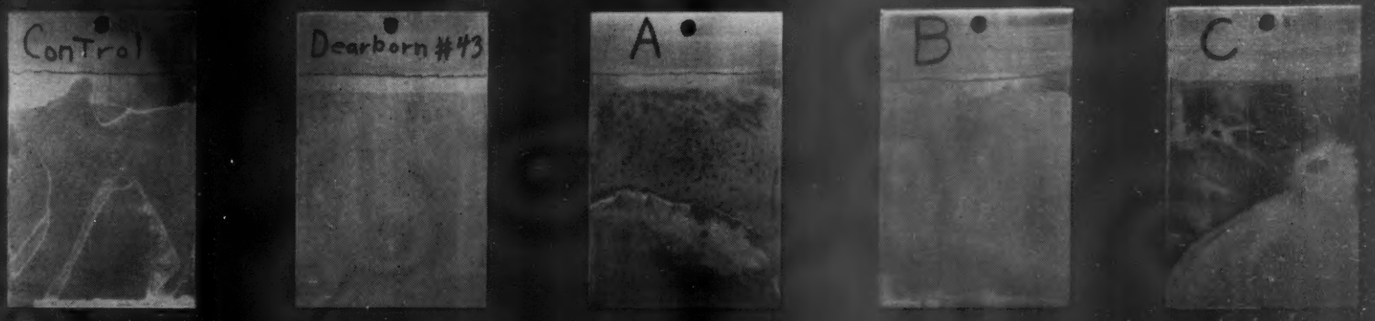
COMPETITIVE TESTS demonstrate positive proof of non-streaking, sheen-producing properties of Dearborn Cleaners



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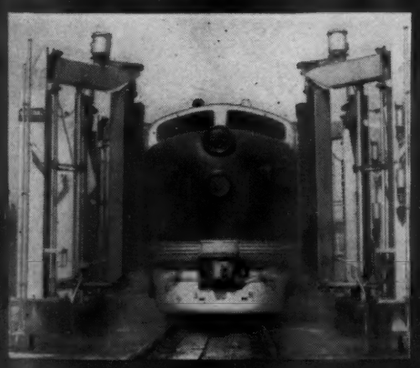
Laboratory tests conclusively demonstrate superiority of Dearborn Cleaners. Actual field tests will duplicate this performance. A Dearborn Engineer will conduct a test with your equipment.

use with the most modern equipment and methods



DIESEL Dearborn Cleaners are effectively used through mechanical car washers . . . leave equipment bright, shiny . . . without streaking.

STEAM Dearborn Cleaners for use with chemical tank set-up. Dearborn Engineers will help design a pressure system for your operation.

write for complete information . . .

A Dearborn Engineer is ready to discuss your cleaning requirements. Write for complete information on "Clean with SAFETY" — the completely versatile line of Dearborn Cleaners.

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Merchandise Mart Plaza, Dept. RA
Chicago 54, Ill.

☐ Send complete information on Dearborn Cleaners
☐ Have a Dearborn Engineer call

Name.....

Railroad.....

Address.....

City.....State.....

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THE LEADER IN WATER TREATMENT AND RUST PREVENTIVES

Occupants of *Empire Builder* bedrooms enjoy complete privacy and all the comforts of home.

Spacious compartments reveal eye-appealing color schemes in upholstery and carpeting.

A Great Day for the Great Northern

GREAT NORTHERN RAILWAY

◀ Day-Nite coaches have sleep-inviting adjustable seats and footrests for budget-minded travelers.

Open sections, too, ▶ are planned with every consideration for the discriminating passenger.

Roomettes for single occupancy pack *Empire Builder* luxury into an ingenious minimum of space.

In this *Western Star* observation-lounge car, Pullman-Standard artistry is also evident.

JUNE 3, 1951 . . . that was Inauguration Day for the Mid-Century *Empire Builder* . . . and for its companion train, the *Western Star*.

And that's making progress *fast!* There was a new *Empire Builder* only four years ago . . . *five* complete new trains, all built by Pullman-Standard . . . the *first* streamliners of their class delivered by any carbuilder after World War II. And now come five more, *again* all new and the finest ever.

All the sleeping cars for the Mid-Century *Empire Builder* are Pullman-Standard masterworks. Compartments, bedrooms, duplex roomettes, roomettes, and open-section accommodations speak the last word in travel luxury. The Day-Nite coaches . . . *a Pullman-Standard innovation, introduced by Great Northern . . .* are comfort marvels too.

From Pullman-Standard shops, likewise, came most of the new passenger cars for the *Western Star* fleet of six streamliners—supplementing former *Empire Builder* equipment and making the *Oriental Limited's* successor another of America's outstanding trains.

It's no wonder that Pullman-Standard takes *special* pride in saluting the Great Northern as a constant contributor to transportation progress!

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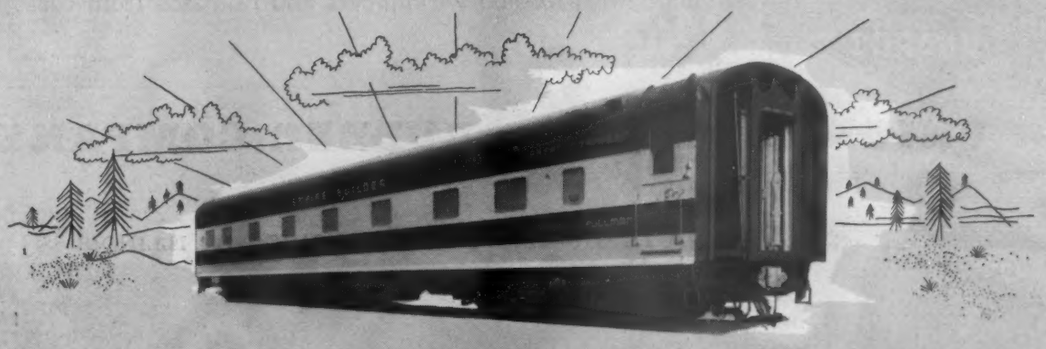

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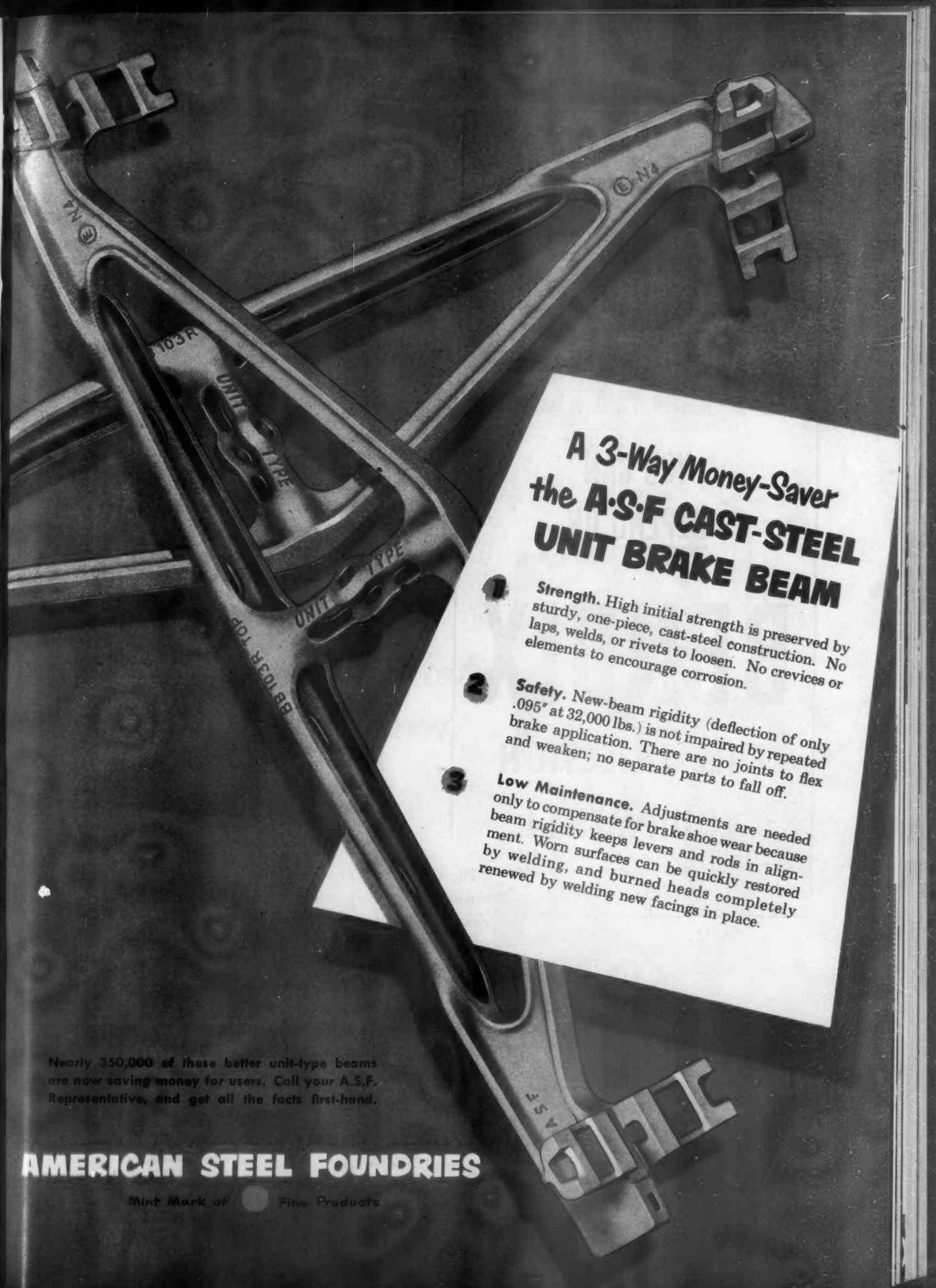


A 3-Way Money-Saver the A·S·F CAST-STEEL UNIT BRAKE BEAM

1. **Strength.** High initial strength is preserved by sturdy, one-piece, cast-steel construction. No laps, welds, or rivets to loosen. No crevices or elements to encourage corrosion.

2. **Safety.** New-beam rigidity (deflection of only .095" at 32,000 lbs.) is not impaired by repeated brake application. There are no joints to flex and weaken; no separate parts to fall off.

3. **Low Maintenance.** Adjustments are needed only to compensate for brake shoe wear because beam rigidity keeps levers and rods in alignment. Worn surfaces can be quickly restored by welding, and burned heads completely renewed by welding new facings in place.

Nearly 350,000 of these better unit-type beams are now saving money for users. Call your A.S.F. Representative, and get all the facts first-hand.

AMERICAN STEEL FOUNDRIES

Mint Mark of Fine Products

FOR EVERY TYPE OF

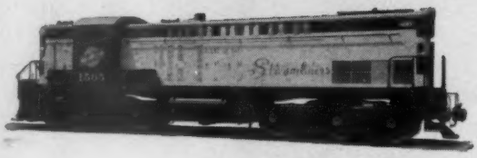
RAILROAD OPERATION

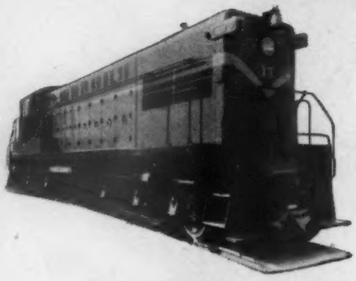
YOU CAN

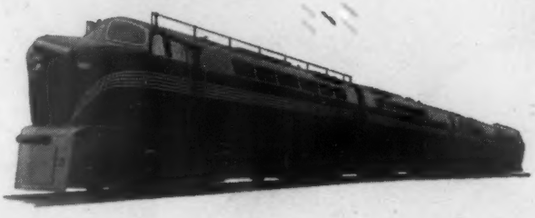
DEPEND ON

BENDIX

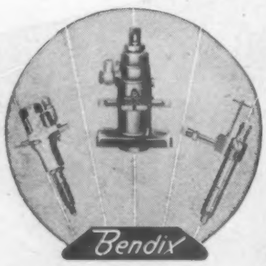
FUEL INJECTION EQUIPMENT!







Illustrated here are a few of the many types of Baldwin locomotives using Bendix Fuel Injection equipment. Whether the job is yard switching or cross country hauling, the railroads of the nation are coming more and more to realize that they can depend on Bendix Fuel Injection equipment for economical and efficient service. When ordering diesel equipment it will pay you to specify Bendix Fuel Injection equipment, the best buy for every type of railroad operation.



SCINTILLA MAGNETO DIVISION of Bendix AVIATION CORPORATION

SIDNEY, NEW YORK

Western Office: 582 Market Street, San Francisco 4, California • Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York

ax-Consolidated Da-lite Control Blinds

he *EMPIRE BUILDER'S* BEST ADVERTISEMENT—

The passenger who arrives relaxed!

Coach & Car Corporation Dreamliner, Combination Foot-and Leg-rest Seat.

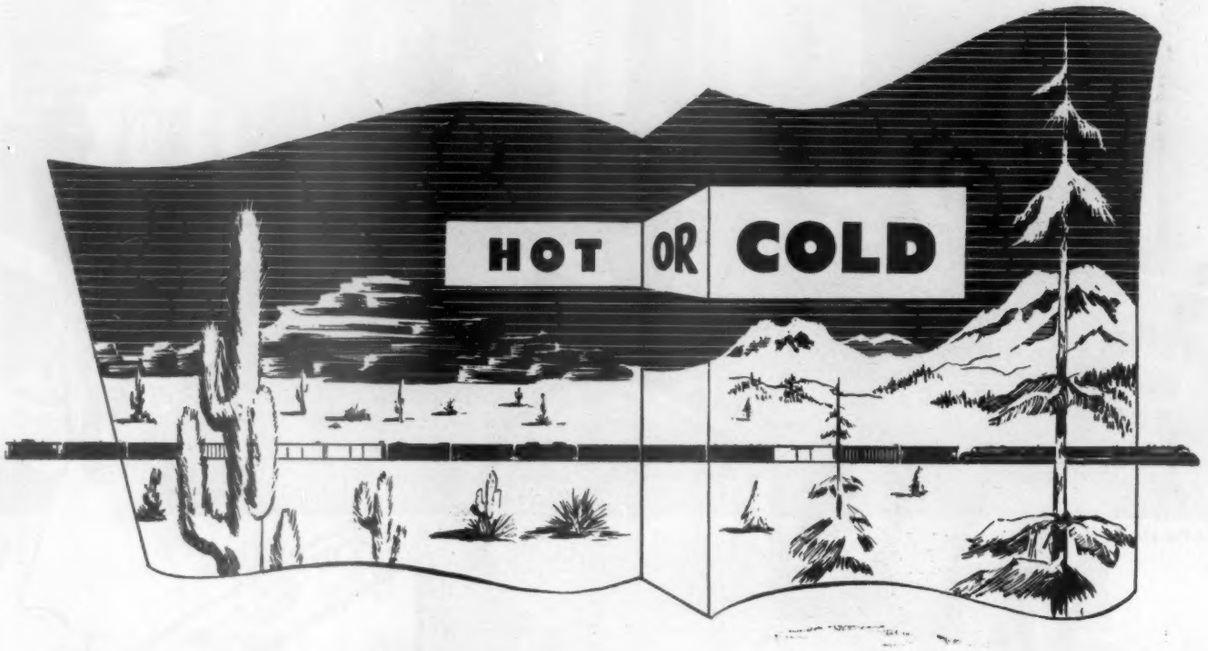
The *Great Northern* relies on Ajax-Consolidated to provide the comfort and relaxation which is *written into the construction* of their great streamliner, *The Empire Builder*, when Ajax *Da-lite Control Blinds* and Coach and Car Corporation's *Dreamliner* combination foot- and leg-rest seats are specified!

AJAX

CONSOLIDATED COMPANY

64 EAST JACKSON BOULEVARD

CHICAGO 4, ILLINOIS



Streamlite HAIRINSUL *IS ALWAYS EFFICIENT!*

The valuable perishables which modern refrigerator cars carry are fully protected against sudden and extreme temperature changes by efficient Streamlite Hairinsul.

Leading refrigerator car builders have been specifying all-hair insulation for nearly half a century—and they find today that Streamlite Hairinsul, with its 40% less weight, is the most efficient and economical.

Streamlite Hairinsul assures you all the advantages given at the right—and more besides. Write for complete data.

1 LOW CONDUCTIVITY. Thoroughly washed and sterilized, all-hair heat barrier. Rated conductivity—.25 btu per square foot, per hour, per degree F., per inch thick.

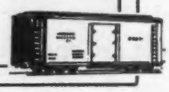
2 LIGHT WEIGHT. Advanced processing methods reduce weight of STREAMLITE HAIRINSUL by 40%.

3 PERMANENT. Does not disintegrate when wet, resists absorption. Will not shake down, is fire-resistant and odorless.

4 EASY TO INSTALL. Blankets may be applied to car wall in one piece, from sill to plate and from one side door to the other. Self-supporting in wall sections between fasteners.

5 COMPLETE RANGE. STREAMLITE HAIRINSUL is available ½" to 4" thick, up to 127" wide. Stitched on 5" or 10" centers between two layers of reinforced asphalt laminated paper. Other weights and facings are available.

6 HIGH SALVAGE VALUE. The all-hair content does not deteriorate with age; therefor has high salvage value. No other type of insulation offers a comparable saving.



Dept. H16, Merchandise Mart, Chicago 54, Ill.

when the PRESSURE IS ON!

Switching strings of cars in Hump or Flat Classification Yards—

"Slack" running in and out in train operation—

Starting long trains after "taking the slack"—

These are the conditions which "put the pressure" on Draft Gears—and that's where the Capacity, Sturdiness and Endurance of Westinghouse Friction Draft Gears show up best.

WESTINGHOUSE

Friction Draft Gear
Certified A.A.R.

5127

CARDWELL

Friction Bolster Springs
. . . for A. A. R. and
Long-Travel Springs.

Over 98% of the cars in freight carrying service are A. A. R. construction and over 96% have Friction Draft Gears.

Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal

Winning Tonnage Back to the Rails
WITH "ROCKET FREIGHTS"

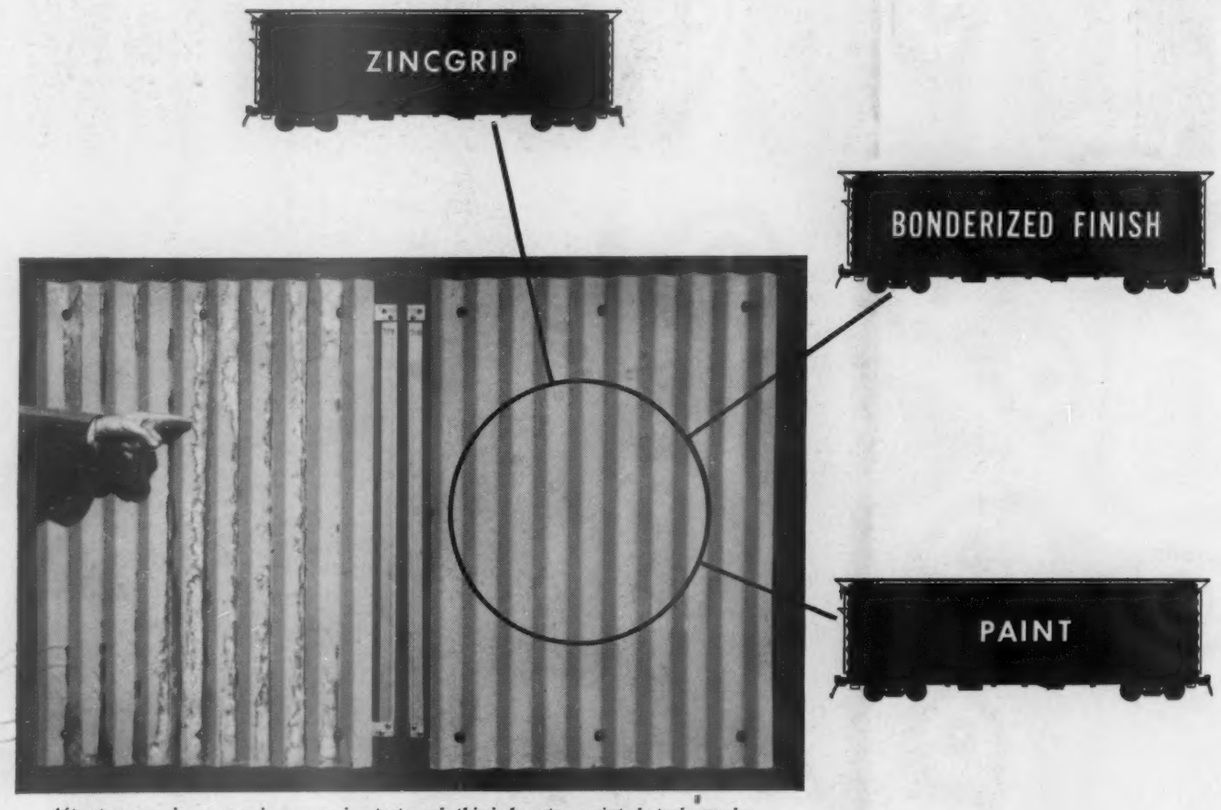
Mainline freight shipments, from the Twin Cities to Texas and from Chicago to the West, go "Rocket Freight." This expedited service is the Rock Island's strong bid for freight in a highly competitive field.

Since the dieselization of Rock Island freight service, freight train tonnages have steadily increased until they are now eighteen per cent above the peak war year of 1944—and that accomplished with 30 per cent fewer locomotives. Powerful Alco-GE locomotives have substantially contributed to the outstanding success of the competitive service provided by "Rocket Freights."

AMERICAN LOCOMOTIVE
and GENERAL ELECTRIC

113-262

160
160
Rock
Island
ISLAND



After two years' exposure in a corrosion-test yard, this is how two painted steel samples look. Panel at the left is regular galvanized steel. Note how the paint has flaked and peeled away from the zinc coating. Panel at the right is Armco ZINCGRIP-PAINTGRIP. *Here the paint is just as smooth and protective as the day it was put on.*

HERE'S HOW "3-WAY" RUST PROTECTION CUTS FREIGHT-CAR MAINTENANCE COSTS

There's little profit in freight cars that spend too much time in the shop. But there is *good* profit in materials that keep cars on the road, year after year, with little maintenance.

When Armco ZINCGRIP-PAINTGRIP has been used in freight-car roofs, doors, side panels and other exposed parts, it has brought long life and fewer replacements.

That's because this special-purpose steel offers "3-way" protection against atmospheric corrosion. This triple protection consists of:

1. **A unique zinc coating that can be severely drawn or formed without flaking or peeling.**
2. **A mill-applied Bonderized finish that *takes and holds paint.***
3. **The paint you apply after fabricating.**

Extensive tests show that paint lasts several times longer on ZINCGRIP-PAINTGRIP than on ordinary galvanized sheets because the neutral Bonderized finish preserves vital oils in the paint, keeps them from drying out and causing the paint to peel or flake before its time.

All types of steel are scarce now, but it will pay you to find out more about Armco ZINCGRIP-PAINTGRIP Steel for future use. For complete data, just write us at the address below.

ARMCO STEEL CORPORATION

51 Curtis Street, Middletown, Ohio, with Plants and Sales Offices from Coast to Coast · The Armco International Corporation, World-Wide.

ARMCO

NO PIN ROTATION

The square-headed retaining pin is held securely in place by a flanged hood ear bent over the pin head as an anvil.

NO EYE ELONGATION

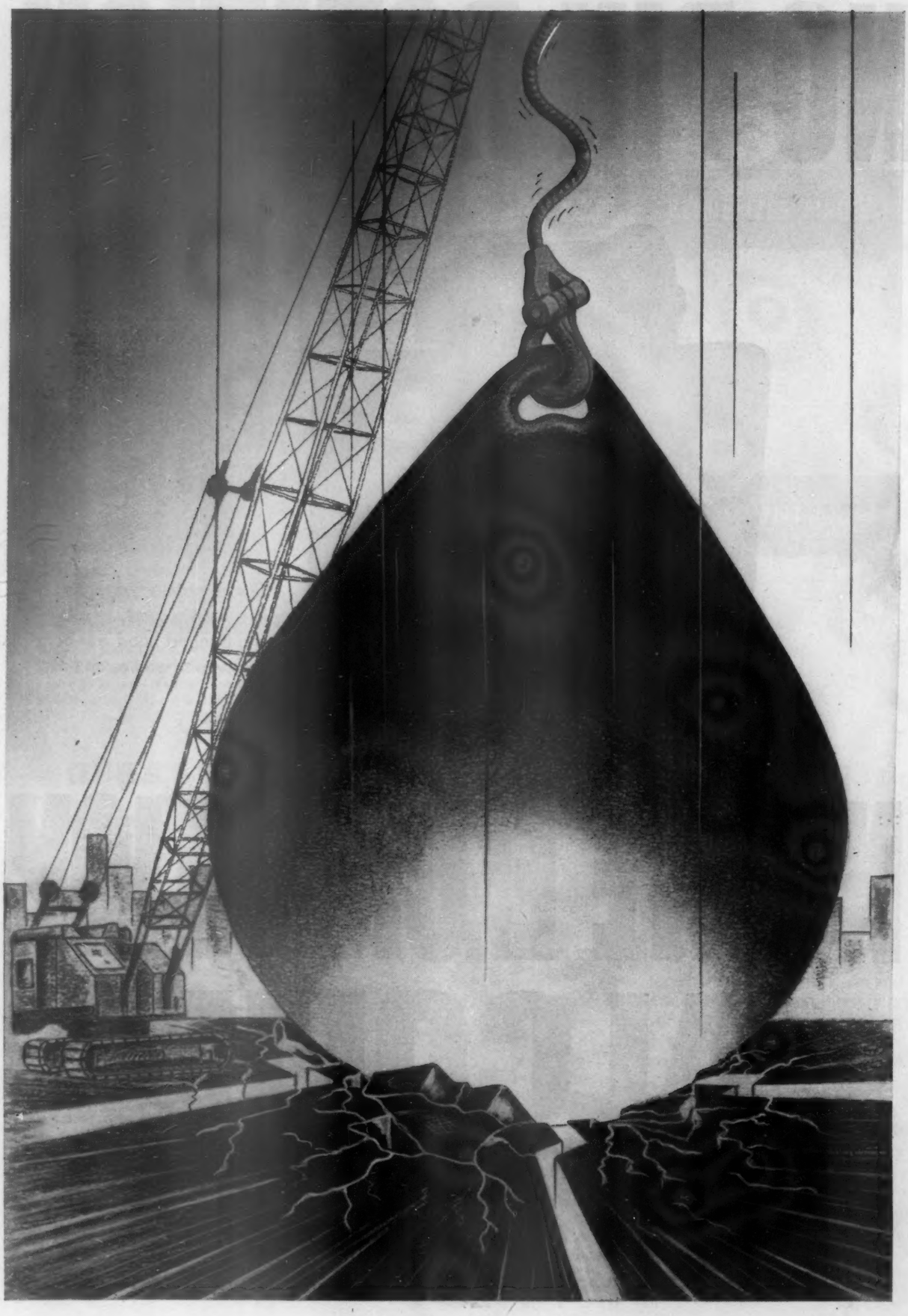
ALCOLID®

THE LIFETIME JOURNAL BOX LID

Call your Alco sales representative in

New York • Cleveland • Chicago • St. Louis • St. Paul • San Francisco

RAILWAY STEEL-SPRING DIVISION • AMERICAN LOCOMOTIVE COMPANY



one BIG shock

does more damage than a lot of little ones!

Fewer heavy shocks are passed on to the car and lading by patented *Barber Stabilizers* than by other systems of spring control. That's why Barber Trucks ride better.

This fact becomes clear when (1) a study is made of the Test Data of the Base Car and compared with ANY Test Figures which have been sent to you; and when (2) an Analysis is made of the Savings in Damage Claims on Barber-equipped cars.

It takes a whale of a lot of little shocks to do as much damage as one big one.

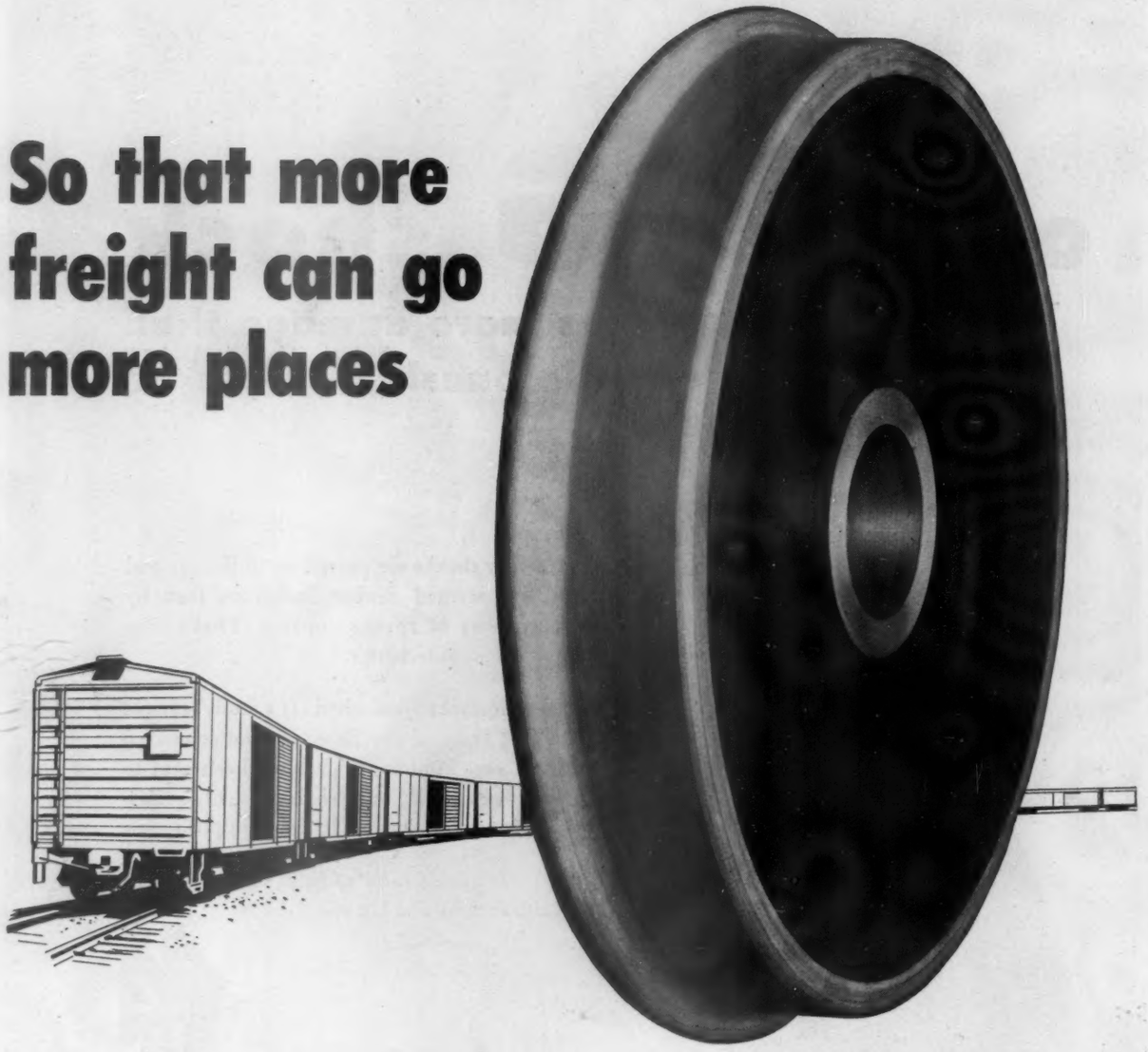
Barber Side Springs carry part of the load, increasing capacity.

B5662

Over 275,000 Car Sets of **BARBER STABILIZED TRUCKS** have been specified

STANDARD CAR TRUCK COMPANY
332 SOUTH MICHIGAN AVE., CHICAGO, ILL.

So that more freight can go more places



It has been a long time since Bethlehem made its first one-wear wheel, and the intervening years have seen many steps forward . . . enormous progress in metallurgy, forging, rolling, and everything else at Bethlehem that contributes to the making of fine railway wheels.

The same years have also witnessed a great increase in our capacity to manufacture wheels. This expanded capacity helps us to fill a vital need both in normal times and in periods of emergency.

To illustrate: thousands of Bethlehem's one-wear freight wheels have been earmarked for today's huge car-building program, which must necessarily be completed at top speed. Yet quantity production is being accomplished efficiently and with no sacrifice of quality. Bethlehem's primary aim is, and always has been, to make a railway wheel that is unsurpassed anywhere.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

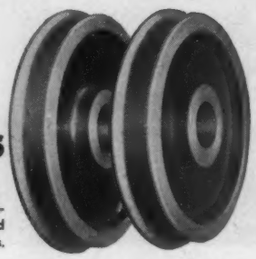
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

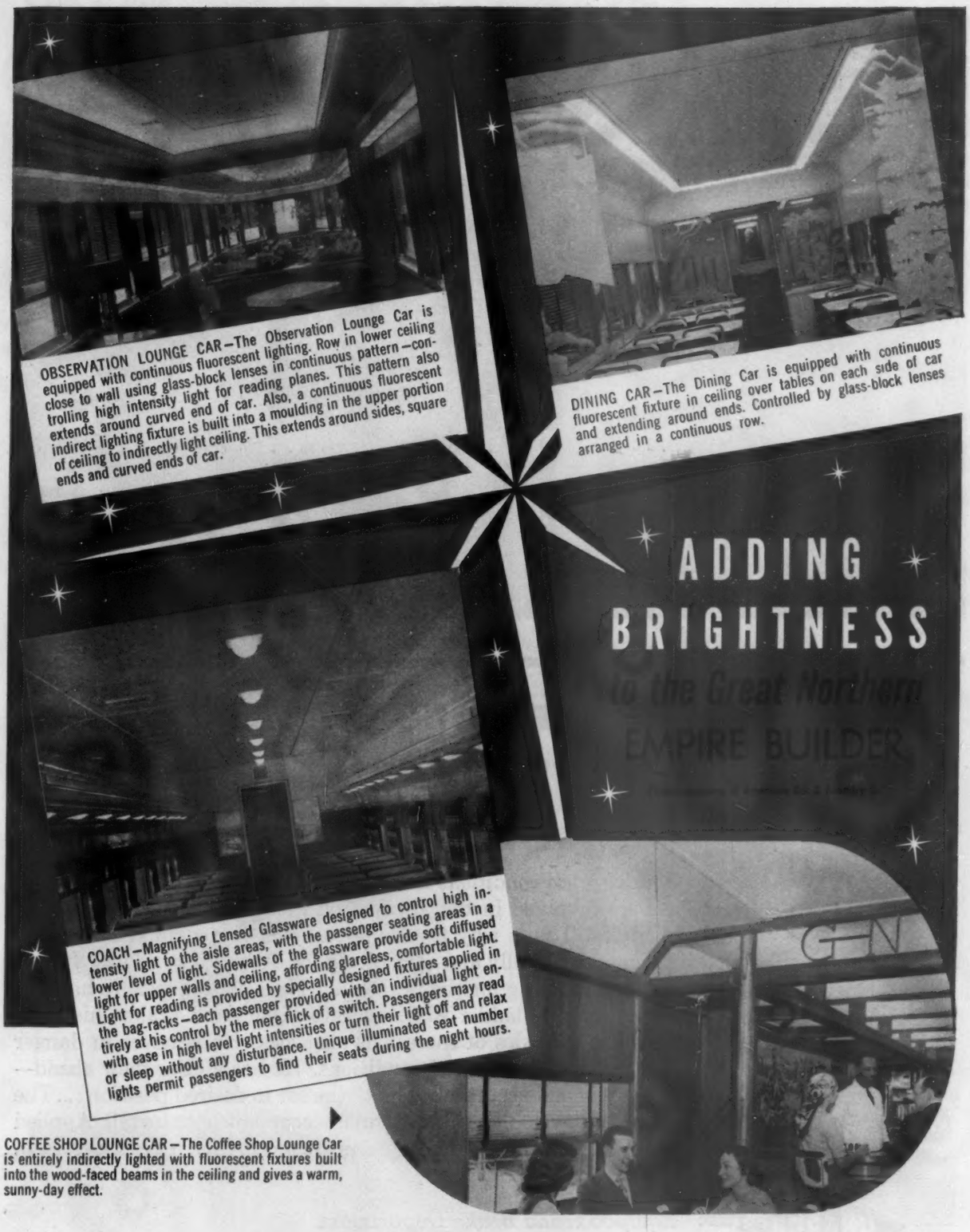
BETHLEHEM STEEL

BETHLEHEM WROUGHT-STEEL WHEELS

COMPANIONS TO BETHLEHEM FORGED-STEEL AXLES

Products of the Bethlehem wheel shops include multiple-wear passenger and diesel locomotive wheels, which can be heat-treated in accordance with the latest A.A.R. or A.S.T.M. specifications.





OBSERVATION LOUNGE CAR—The Observation Lounge Car is equipped with continuous fluorescent lighting. Row in lower ceiling close to wall using glass-block lenses in continuous pattern—controlling high intensity light for reading planes. This pattern also extends around curved end of car. Also, a continuous fluorescent indirect lighting fixture is built into a moulding in the upper portion of ceiling to indirectly light ceiling. This extends around sides, square ends and curved ends of car.

DINING CAR—The Dining Car is equipped with continuous fluorescent fixture in ceiling over tables on each side of car and extending around ends. Controlled by glass-block lenses arranged in a continuous row.

COACH—Magnifying Lensed Glassware designed to control high intensity light to the aisle areas, with the passenger seating areas in a lower level of light. Sidewalls of the glassware provide soft diffused light for upper walls and ceiling, affording glareless, comfortable light. Light for reading is provided by specially designed fixtures applied in the bag-racks—each passenger provided with an individual light entirely at his control by the mere flick of a switch. Passengers may read with ease in high level light intensities or turn their light off and relax or sleep without any disturbance. Unique illuminated seat number lights permit passengers to find their seats during the night hours.

COFFEE SHOP LOUNGE CAR—The Coffee Shop Lounge Car is entirely indirectly lighted with fluorescent fixtures built into the wood-faced beams in the ceiling and gives a warm, sunny-day effect.

LUMINATOR inc.

LIGHTING ENGINEERS · DESIGNERS · MANUFACTURERS

120 NORTH PEORIA ST., CHICAGO 80, ILLINOIS

IN CANADA: RAILWAY AND POWER ENGINEERING CORP.

A DROP-END GONDOLA REQUIRES A LEVER-TYPE HAND BRAKE

Special safety conditions not common to any other type of freight car are involved in the application of hand brakes to drop-end gondolas. That's why the Equipco Lever-Type Hand Brake was designed especially and exclusively for drop-end gondolas. It permits firm footing for the brakeman. He is not required to hang on to the car side-ladder while operating the hand brake—his body is within the sides of the car at all times. He is never in danger due to "close clearance" conditions. He has a clear view ahead—can safely and accurately "spot" the car in desired position... The Equipco Lever-Type Hand Brake is economical to install. Applied to corner post, no mounting plates are required... A.A.R. Certified.

UNARCO

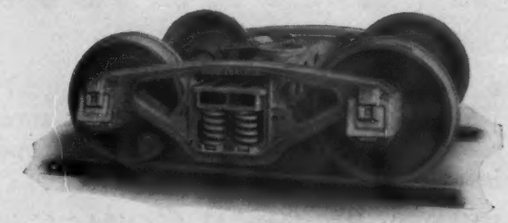
Equipco Hand Brake Department

UNION ASBESTOS & RUBBER COMPANY

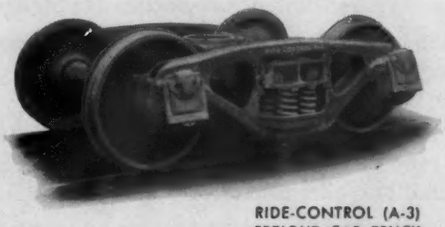
332 South Michigan Avenue • Chicago 4, Illinois

BUCKEYE

Railway Equipment Castings



BUCKEYE CUSHION-RIDE FREIGHT CAR TRUCK

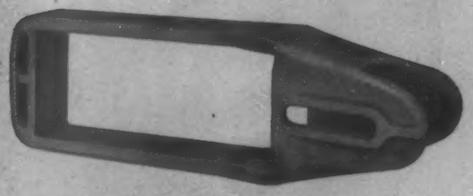


RIDE-CONTROL (A-3) FREIGHT CAR TRUCK

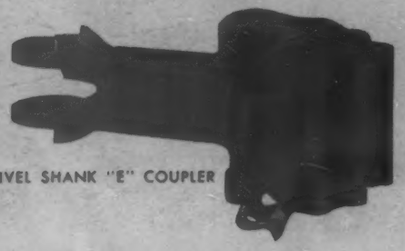
SIX-WHEEL TRUCK

EIGHT-WHEEL TRUCK

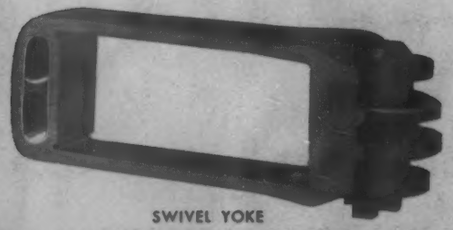
RIGID SHANK "E" COUPLER



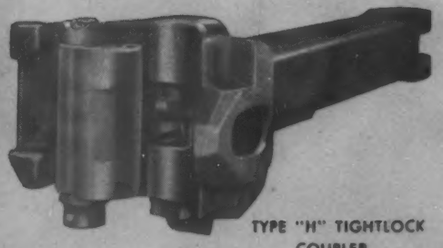
HORIZONTAL KEYED YOKE



SWIVEL SHANK "E" COUPLER



SWIVEL YOKE



TYPE "H" TIGHTLOCK COUPLER

TIGHTLOCK COUPLER YOKE AND RADIAL CONNECTION

THE BUCKEYE STEEL CASTINGS COMPANY

New York, N. Y. Columbus, Ohio Chicago, Ill.

ACCURACY

With BARCO You're Sure...

DEPENDABILITY

• When your locomotives are equipped with BARCO RECORDERS, you can be sure you are using the most accurate, most dependable instruments money can buy.

INHERENT MECHANICAL ACCURACY

Only BARCO gives you the accuracy and dependability of ALL-MECHANICAL construction. A tested and proven design, manufactured to high standards of precision. Easy to install; simple to maintain.

PROVED BY MILLIONS OF MILES OF SERVICE

The accuracy and dependability of BARCO SPEED RECORDERS are unquestioned. A typical user* reports accuracy within 2% at 100 MPH after a million miles of service!

RECORDERS FOR EVERY TYPE OF LOCOMOTIVE

The BARCO line is complete! Records of every locomotive operation—for every type of engine in service or now being built. For information, see our local Barco representative or write to BARCO MANUFACTURING CO., 1800-G Winnemac Ave., Chicago 40, Illinois.

**Name on request.*

Ask for a Copy

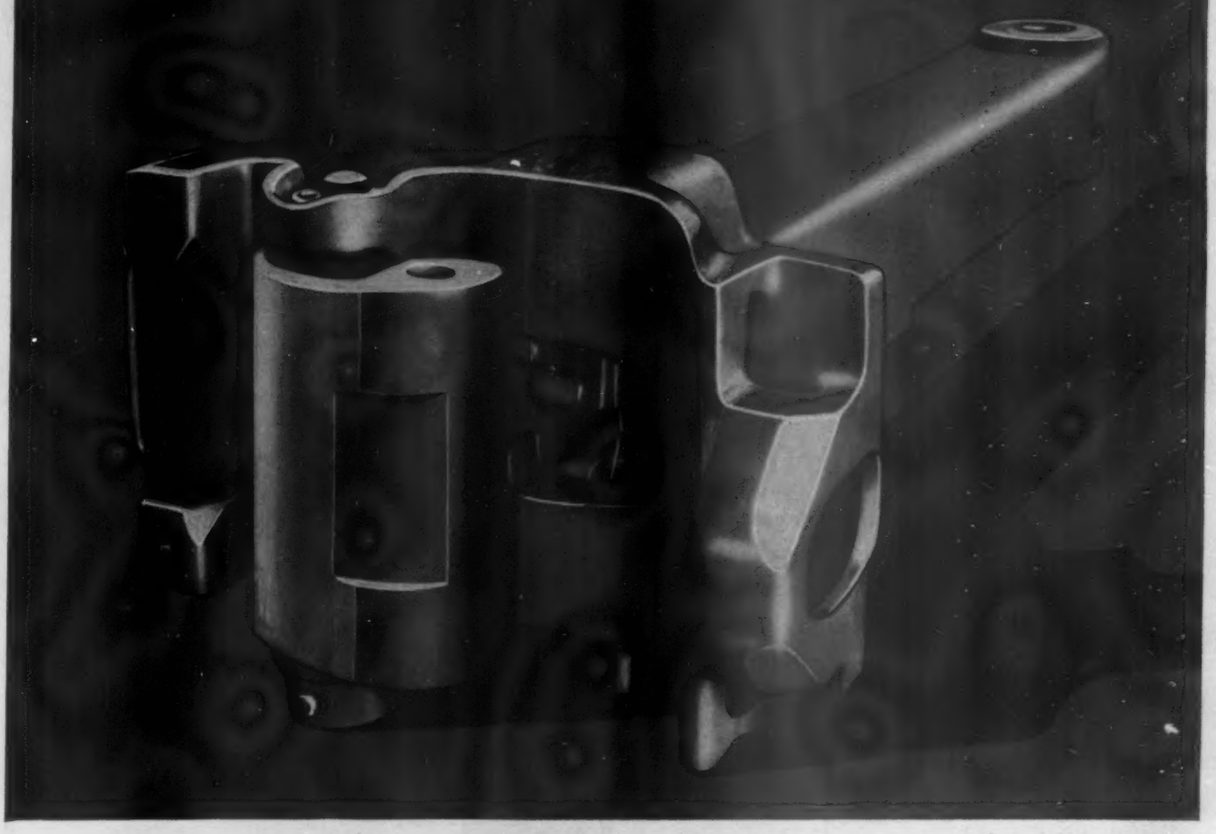
NEW BULLETIN—"Barco Recorders for Diesel, Steam, and Electric Locomotives in Passenger, Freight, and Switching Service."

BARCO RECORDERS

- SPEED RECORDERS
- SPEED INDICATORS
- DIESELOMETERS
- SWITCH ENGINE RECORDERS

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

NATIONAL
TIGHTLOCK COUPLERS



For industrial and special service
SHARON 10 COUPLERS
WILLISON COUPLERS

also
STANDARD
E COUPLERS
and coupler repair parts

NATIONAL Pacific
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NATIONAL MALLEABLE and STEEL CASTINGS COMPANY
CLEVELAND 4, OHIO
COUPLERS ● TRUCKS ● YOKES ● DRAFT GEARS ● JOURNAL BOXES AND LIDS

with FLAME-HARDENING

Are you taking full advantage of the flame-hardening process in your shops? This list will help you compare the flame-hardening operations that are being done on your railroad with the broad application of this money-saving process in scores of shops following OXWELD procedures. Usually you can adapt existing setups to harden any additional parts.

Write for booklet F-5422 which discusses flame-hardening principles as they apply to railroads. OXWELD representatives will be glad to review your flame-hardening operations with you.

The term "Oxweld" is a registered trade-mark of Union Carbide and Carbon Corporation.

HERE IS A CHECK-LIST ON FLAME-HARDENING

Locomotive Parts

Articulating Pins

Booster gears
Booster shafts
Brake beam trunnions
Brake rigging pins
Buffer castings
Buffer radial blocks
Buffer wedges

Chafing castings
Cradle pins
Crosshead guides—bar type
Crosshead guides—multiple bearing
Crosshead shoes

Drawbar pins
Driver spring equalizers
Driver spring saddles
Driving box liners
Driving box jaw surfaces
Driving wheel lateral wedges

Equalizers
Equalizer crossbars
Equalizer pins

Floating crosshead guide housing

Knuckle pins
Knuckle pin bushings

Lead truck boxes
Lead truck pedestal jaws
Lead truck rocker bearings
Lead truck rocker castings
Lead truck rocker seats
Lead truck swing bolsters
Links
Link boxes

Pedestal shoes
Pedestal wedges
Piston head ring grooves
Piston valve packing rings

Reversing yokes

Slack adjusting wedges
Spring hangers
Stoker gears
Stoker racks
Stoker screws
Swing hangers

Tender truck journal boxes
Trailer equalizers
Trailer rocker plate
Trailer rocker plate rollers
Trailer truck rocker castings
Truck equalizer pins (electric locomotives)

Valve crossheads
Valve crosshead gibs
Valve crosshead guides
Valve crosshead shoes

Wrist pins

Coach Parts

Buffer castings
Buffer stems

Coupler knuckles

Equalizer seat inserts

Generator drive pulleys

Journal box wedges
Journal box wedge seats

Slack adjusters
Spring seats

Truck equalizers
Truck pedestals

Car Parts

Bolster spring seats
Buffer castings

Coupler carrier castings
Coupler knuckles
Coupler lock
Coupler lock lifter

Hopper car door lock

Journal brass wedges

Side bearing parts

Others

Crane wheels

Derrick bearings

Punch or die blocks

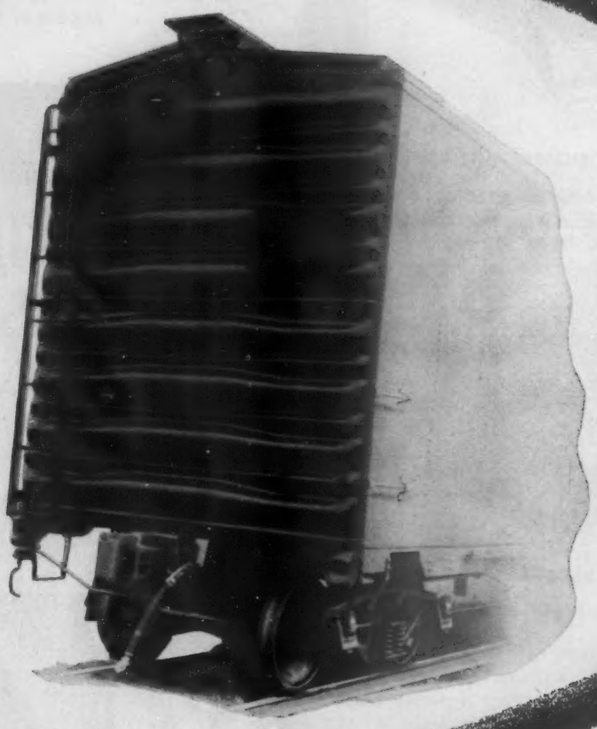
Spring stripper blocks

Tractor traction bearing rolls
Traveling crane pinions
Turntable rollers

OXWELD RAILROAD SERVICE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York
In Canada:
Canadian Railroad Service Company, Limited, Toronto

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

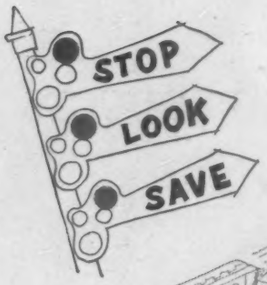
NATURALLY, *Standard* PRODUCTS
ARE USED BY ALL BUILDERS OF CARS



Improved Dreadnought End

...because only a specialist can afford tooling for the best design in mass production.

Standard
RAILWAY EQUIPMENT MANUFACTURING COMPANY
THE WORLD'S LARGEST FABRICATOR OF RAILWAY CAR SPECIALTIES
310 S. Michigan Avenue, Chicago 4 • 247 Park Avenue, New York 17



How to take your maintenance costs "for a ride"

Here are 5 ways you can pare your maintenance costs in 1951 . . . with 5 Johns-Manville products designed to stand up under the wear and tear of hard railroad service year after year. Your nearest Johns-Manville office will be glad to give you complete information—or you can get all the facts by writing to Johns-Manville, Box 290, New York 16, N. Y. In Canada, address 199 Bay Street, Toronto 1, Ontario.

◀ Cover car heating pipes with Thermo-Wrap

This improved lace-type pipe insulation gives maximum protection to heating lines throughout the length of the train. It is easy to install—fits tight and stays tight—withstands the impact of rain, sleet, snow and flying ballast.

Insulate passenger cars with Stonefelt ▶

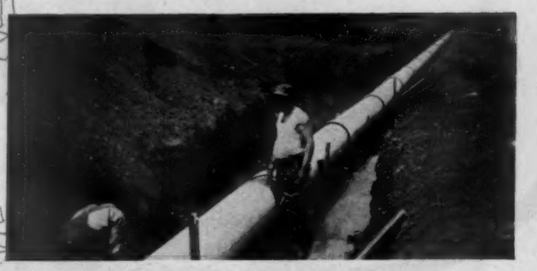
Applied in blanket form, this specially designed J-M Insulation is fire resistant, will not settle or deteriorate once in place between the car walls. Its excellent insulating qualities also help cut air conditioning and heating costs.

◀ Roof with J-M Asbestos Shingles

Not one of these fireproof, rotproof shingles has ever burned or worn out! They stand up under constant exposure to sun, wind and rain, require little maintenance. Many J-M Asbestos Shingle roofs applied over 30 years ago are still in service.

Use Transite Pipe for water lines ▶

This asbestos-cement pipe cuts water line costs because it resists corrosion . . . withstands vibration . . . and because its high water carrying capacity helps keep pumping costs to a minimum. Its light weight and easily assembled joints simplify installation.



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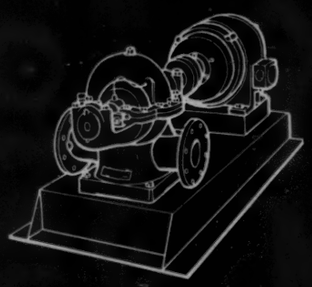

Centrifugal Pumps

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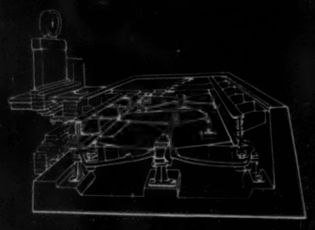
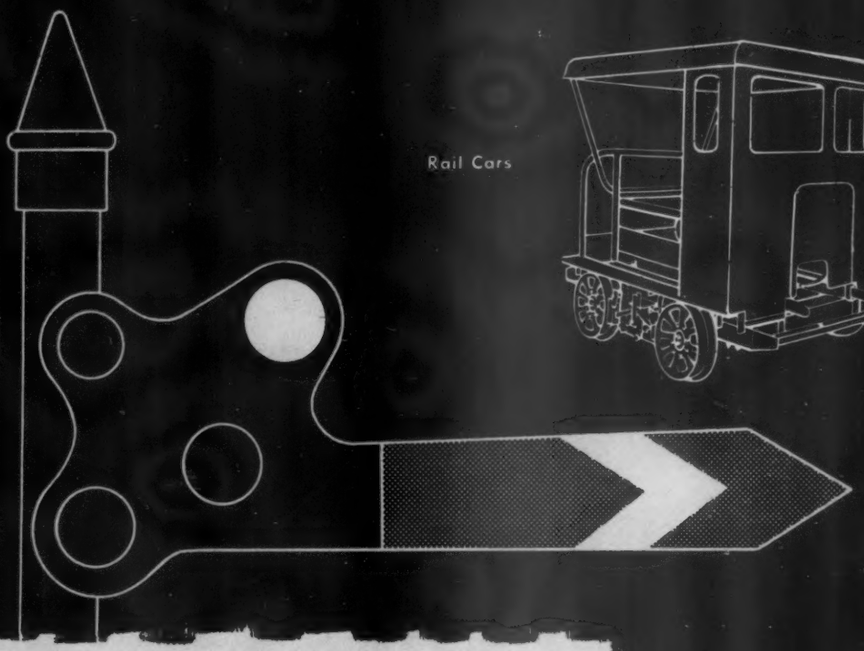
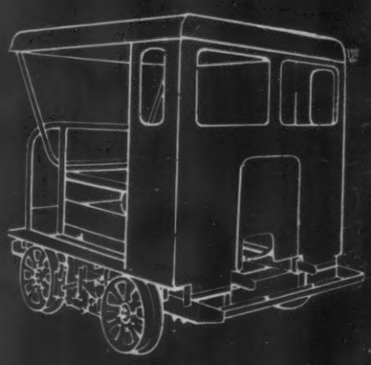
Turbine Pumps



Truck Scales



Rail Cars



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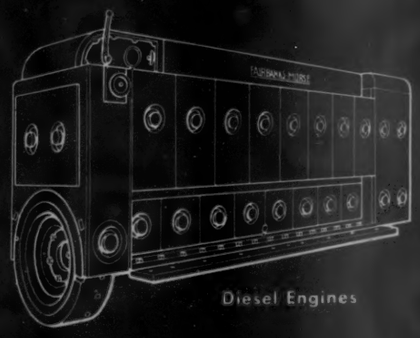
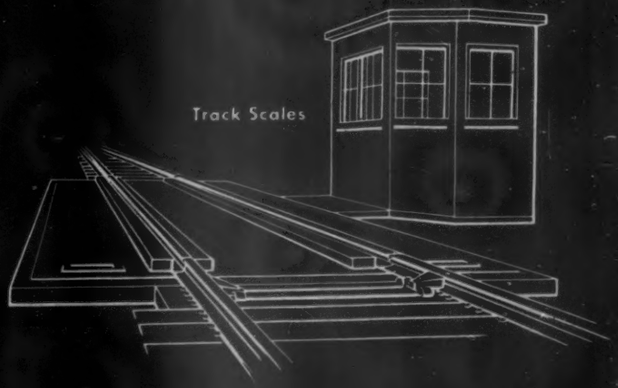


Diesel Engines



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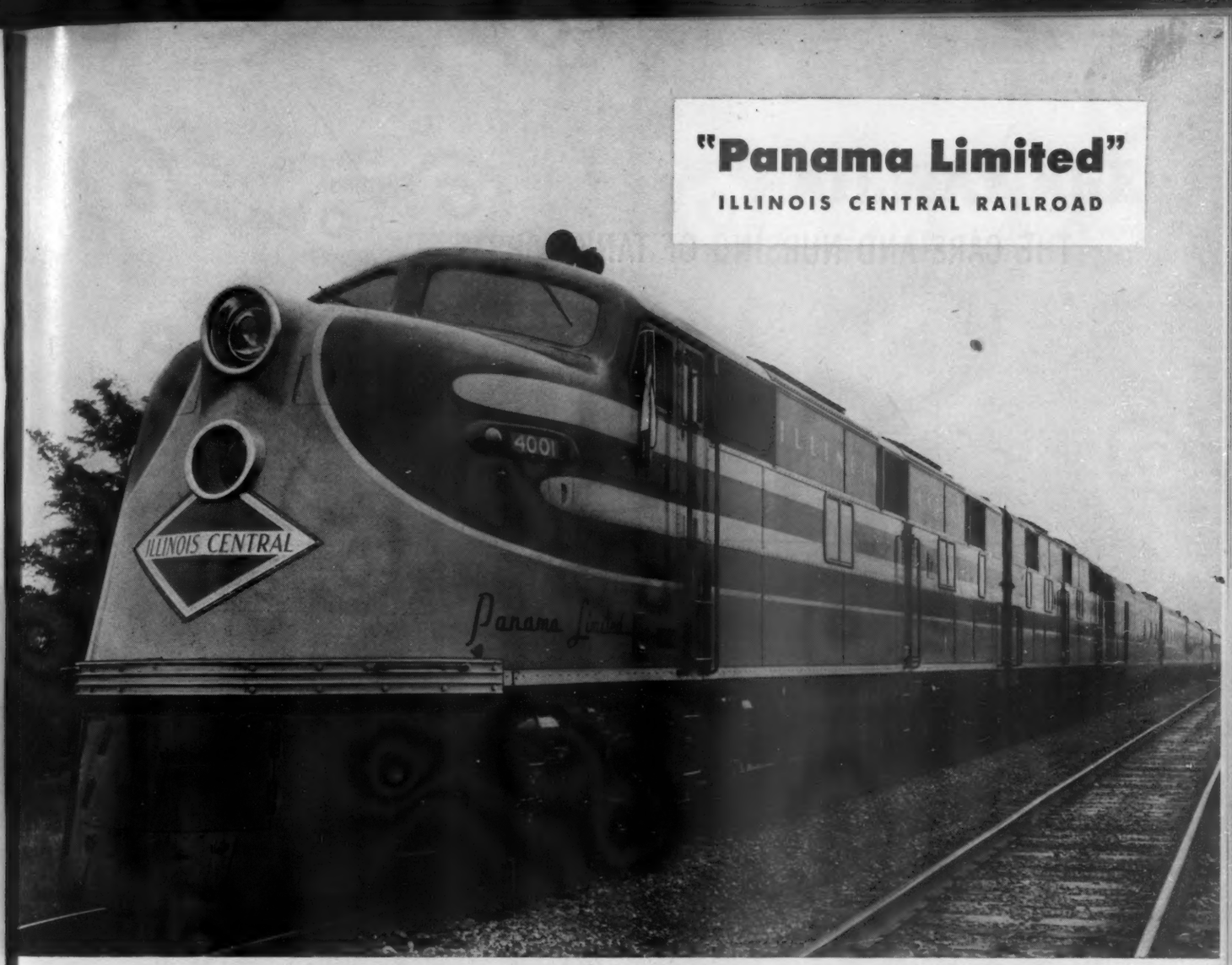

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RAILWAY AGE
EDITORIAL COMMENT

KEEPING PEOPLE APACE WITH IMPROVEMENTS IN MACHINES

It is frequently argued that widespread prevalence of promotion under the "seniority rule" explains the rather limited interest on the railroads in formal education of employees for advancement in their work. There is, no doubt, some truth in this contention. Experience demonstrates, nevertheless, that many employees will devote a great deal of their own time to educational effort, when management takes the trouble to provide the necessary instruction and other facilities. A specific example of this is offered in the accounting department of the Western Pacific, which has in successful operation a comprehensive educational program in railway accounting procedures — described elsewhere in this issue by L. J. Gosney, the W.P.'s comptroller.

There is, perhaps, no other branch of railroading in which greater need exists for formal instruction than the accounting department. Accounting—or "control," as the modern application of figure-work is coming to be called —is a complex art, and a rapidly expanding one. Nobody can hope any longer to learn even the bare fundamentals of this difficult, costly—and potentially highly profitable —process merely by moving under seniority from jobs involving less responsibility into those of gradually more exacting demands. The operation is broken down into such highly specialized parts that it requires a good mind, and some special after-hours effort besides, to get an adequate grasp of the process as a whole. Moreover, the rapid improvement which has occurred in mechanized methods cannot be absorbed and profitably applied without the very considerable mental effort which is needed to keep abreast of developments in new machinery and the possibilities of its profitable use.

More and more mechanization is essential if accounting and clerical costs are to be kept within reason. Fortunately, the progress of mechanization has been so rapid that—if applied wherever economically warranted —savings can be secured which largely offset the rising costs of clerical labor. Moreover, processes are now available to yield valuable additional information for managerial control, which under older manual methods would have been so time-consuming and expensive as to be utterly impracticable.

Qualification Still Essential

Untrained hands and untrained minds are quite inadequate to meet the challenge of the rapid development in this field. Although "seniority" is doubtless a handicap in encouraging as high a degree of educational activity as might be desired, it is quite evidently no absolute deterrent. *Management still has the prerogative of establishing reasonable qualifications for specific positions, and of refusing to accept bids from unqualified employees, regardless of their seniority.* Thus there exists—or can be made to exist—sufficient economic incentive to encourage many employees to avail themselves of educational opportunities, if management will provide them.

Purely economic incentives, moreover, are not the only ones which are operative. Interest exists in self-improvement on the job even where a direct and immediate

money incentive is absent. Many employees take a professional pride in their work and welcome an opportunity to increase their proficiency. One of the nation's most profound students of management problems, Chester I. Barnard, testifies that "there is not enough vitality in dollars to keep business running on any such scale as we experience it. . . ." One of the able leaders of organized railway labor graduated into union work from his successful effort, as an employee in the ranks, to set up educational facilities in his line of work for the benefit of himself and fellow employees in his department. Here was an educational program of spontaneous origin among employees themselves—with no assistance by management and with no motive whatever except professional pride and the desire to excel.

A well-conceived employee educational program produces "by-products" which are as valuable in their effect as the direct benefits from the program itself. For example, the Western Pacific uses the services of its officers and supervisors as instructors, and Mr. Gosney reports that the contagion of the employee program has stimulated supervisory forces to initiate their own educational program. It has long been a maxim that "the best way to learn a subject thoroughly is to teach it." That is to say, in order to impart what one knows to other people, the would-be instructor has to organize his knowledge systematically; must check what he is going to say for possible error; and must subject his conclusions to critical questioning. After this experience, he cannot very well avoid being better informed than he was before.

The days of getting results by ordering subordinates around are long since gone by—that is, unless and until our system of economic and political freedom falls down and is succeeded by a dictatorship. In the meantime, it is to the advantage of everyone—employees, supervisors, management, owners and customers—to exert himself to the utmost to make our free system work. It cannot work unless our technological progress is paralleled by equal progress by people in working together cooperatively. Salesmanship is needed to gain acceptance of this fact. The real purpose of educational effort in the accounting department or in any other department is to secure an advance in training and skill on the part of people, which should at least be a match for the rapid improvements which are constantly occurring in machinery.

A Help in Meeting Competition

There is competition among industries in the degree of skill and promptness which they show in adapting new inventions and methods to profitable use. The industries which are most alert in mastering and putting to work the available improvements are the ones which will pull ahead, at the expense of their rivals which are laggard in seizing these opportunities. It may be expected, therefore, that the railroads which lay the greatest emphasis on staff education will be the ones—other conditions being equal—which will make the best records in performance. To the extent that the railroads as a whole are more, or less, active than other industries in this direction may depend the relative degree of prosperity of railroads as compared to other industry in the years that lie ahead.

Of the educational efforts being put forth by and in behalf of accounting department supervisors, Mr. Gosney reports: "While this group is still in the experimental stage, we already have reason to believe that Western Pacific, five years hence, will have as capable a group of high-level supervisors as any other railroad or any other business in the country." That is a high hope, but by no means unreasonable or unattainable. It manifests a spirit which ought to become contagious throughout the railroad industry, and not in the accounting department alone.

"CULTURAL LAG"

The current insecurity of human lives, arising from war and threats of war, is frequently ascribed to the greater attention which mankind has given to progress in the physical sciences than to studies dealing with human behavior—sometimes called the "social sciences." A writer in the April 1951 issue of the American Sociological Review—Hornell Hart, of Duke University—presents evidence to show that "social sciences" have, nevertheless, been catching up with the physical sciences in some fields, including railroad and air transportation.

When the railroad first became important, following the invention of the steam locomotive, the physical sciences had made a great leap forward in transportation, but the casualty rate was very high—indicating that the "social sciences" had not yet taught people how to avoid the dangers of the new invention. But progress has been steady as far back as reliable figures go, that is to 1891. Says Mr. Hart:

"This increasing security against the hazards of railroading has been achieved by the invention of mechanical safety devices, by the systematic study and application of safety methods, by the employment of effective social psychology, and by the enactment of state and national legislation . . ."—developments which would be included in whole or in part in the realm of the "social sciences." Mr. Hart presents similar data covering the decline in fatalities from airplane accidents, lynchings, tuberculosis, and diarrhea and enteritis.

The delay in human adaptation to changes in the environment is known in the jargon of sociology as "cultural lag." In railroad and air transportation and the other instances cited in the foregoing, Mr. Hart's report indicates that the "cultural lag" has been largely eliminated, but it still persists to a considerable degree in travel by automobile and in coal mining. During the period 1930-48 when the air travel fatality rate dropped 88 per cent and the railroad fatality rate declined 61 per cent, the automobile fatality rate was reduced only 25 per cent and coal-mine deaths only 24 per cent.

Mr. Hart contrasts the improvement in "cultural lag"

in the field of peaceful pursuits with the very high rate of increase in fatalities resulting from the engines of war, indicating that "cultural lag" is present in an acute and growing form when it comes to lethal weapons. However, he concludes that the success in meeting this problem in some technological fields suggests that it can be met in others—including war casualties and even the threat of large-scale use of atomic missiles.

The foregoing discussion is a little on the academic side—but the introduction of the idea of the "cultural lag" into these practical pages can be justified on the grounds that "cultural lag" is a useful concept. For instance, aren't there a lot of places where "cultural lag" exists in transportation, apart from the domain of casualties?

Isn't it "cultural lag," for instance, that railroads are regulated under statutes which assume a monopoly which vanished a quarter-century ago?

"STRANGEST" TRIBUNAL CLINGS TO ITS TRADITION

Referee Thomas J. Mabry for the first division, National Railroad Adjustment Board, has made some more history in the field of railway labor relations. In three awards involving a conductor and two trainmen on the Norfolk Southern, Referee Mabry has directed the employer to pay for time lost, plus hospital expenses, by these employees — made necessary by surgery to correct hernia (on the part of two of the men) and varicose veins (for the third man). Following a physical fitness examination by the railroad, these employees were directed to have these adverse conditions remedied as a condition to continued employment, and they did so.

More than six months after the claimants had resumed work, the general chairman of the Brotherhood of Railroad Trainmen asked the company to make for these employees "some reasonable adjustment of the expenses incurred during this operation." The cases decided by Referee Mabry in favor of the claimants resulted when the company refused to assume this expense. The company, in its refusal, referred to a clause in its current agreement with the Brotherhood of Railroad Trainmen, reading as follows:

"No grievance will be entertained unless presented in writing to superintendent within forty-five days after its occurrence. Conductors and trainmen shall have the right of appeal, providing such appeal is made in writing within forty-five days after the superintendent has rendered his decision."

As Professor Sumner H. Slichter wrote of the Adjustment Board (i.e., its referees) back in 1941: "Some of its decisions are among the strangest in the annals of industrial relations." Now, ten years later, it cannot be said of Referee Mabry that he is neglecting to carry on in the established tradition.

AN OLD EDUCATIONAL PATTERN

To laymen, and even to some railway officers having general charge of air-brake matters, air-brake equipment looks highly complicated, technical and difficult to understand. With the best intentions in the world the inquirer soon becomes lost and discouraged in studying such descriptive explanations as—

"Initial brake-pipe reduction is automatically limited to about 6 lb. from 70 lb. brake-pipe pressure by connecting the equalizing reservoir into a calibrated volume known as the reduction limiting reservoir. This reduction is just sufficient to start quick service action of the train brakes. If the cars in the train are equipped with AB brakes, a minimum application will then propagate through the train at a speed of about 500 ft. per sec. and a pressure of approximately 10 lb., subject to slight increase in the presence of brake-pipe leakage, will be obtained in the brake cylinders of each car. If the train is made up of 'K' cars, the propagation speed would be much slower and a lower and non-uniform brake cylinder pressure would be received."

This is a statement which air-brake supervisors and inspectors understand perfectly. It illustrates the fact that it is not with respect to the diesel-electric locomotive alone that highly specialized knowledge must be acquired by supervisors and men in the ranks whose work pertains to the operation and maintenance of motive power and rolling stock. Other items which come to mind are the steam-heat equipment on passenger locomotives and passenger-train cars, air-conditioning equipment, and the various applications of electric power for lighting, radios and public address systems.

The problems of education involved are shared by the equipment manufacturers and the railroads. The instruction material of the air-brake companies has been through a process of refinement over many years and is well disseminated among railway employees. At the other extreme is the diesel locomotive. Here the primary responsibility for the development of instruction material rests with the builders and electrical companies, whereas in the days of the steam locomotive the parts of the equipment for which instruction material was needed were divided among a number of specialty manufacturers. This concentration of responsibility in the complex and relatively little understood diesel-electric locomotive into the hands of one or two companies for the locomotive as a whole limits the extent to which complete information can be disseminated because of the cost of complete instruction manuals. The railroads, themselves, so far have limited instructions to those needed for the immediate dissemination of the minimum information necessary for successful routine operation and maintenance.

Ultimately, the problem of spreading more complete knowledge of the new type of motive power more widely will be solved by the help of other agencies which have been resorted to in disseminating information concerning air-brake and other developments. These include papers and reports before associations of supervisors, articles in publications read by railway employees, and books, all of which have contributed to past educational efforts in the assimilation of technical improvements in motive power and rolling stock.

A lecture session devoted to the processing involved in preparation of a voucher check in the general disbursements class

Western Pacific Offers Wide Educational Program for Accounting Employees

Specially prepared for *Railway Age*
By L. J. GOSNEY
Comptroller and General Auditor
Western Pacific

The Western Pacific has recently intensified, and widely extended as to subject matter, the courses of voluntary instruction made available to its accounting department employees. The desirability of systematic instruction in the accounting department first became apparent to the company's management as a result of the difficulties encountered during World War II—in not being able to find employees with sufficient experience to take the place of those inducted into the armed services.

At that time the management decided upon a plan of training employees, particularly those in the freight and passenger accounting department. The first effort was limited to training the inexperienced clerks who held assignments to technical positions requiring knowledge of freight rate applications and division of revenues between carriers. Such knowledge is required by revising clerks, division clerks, and overcharge claim investigators.

The first training courses were given to those who held assignments to such positions, and supplemented the knowledge gained on the job by systematic instruction in classes conducted three nights per week, two hours each, for approximately twenty weeks. In that initial experimental program, applicants not holding assignments to positions requiring rate and division knowledge were not accepted, for the reason that we did not wish to delay the progress of those having such knowledge.

The results were very gratifying—for various reasons. Individual clerks found their jobs were less difficult, and the quality and quantity of their work improved immensely. Their increased proficiency also lightened the burden on experienced employees.

Anticipating that similar conditions might result from the Korean situation, it was decided to go into training programs on a greater scale. The following three general principles governing the expanded training program were outlined at an accounting department supervisors' staff meeting:

Blackboard illustrations are employed extensively in solving problems in the "on-the-job" rate and division classes

1. Classes would be held outside of regular working hours, with attendance optional on the part of employees.

2. Selection of employees to attend various classes would not be attempted: any employee could attend classes on any subject, regardless of his particular training or ability.

3. Classes would be conducted by or under the supervision of the officers in charge of the several phases of railroad accounting in which courses would be offered. Such officers would select and prepare the subject matter to be presented, and determine the best method of presentation. The importance of preparation of subject matter was especially emphasized.

Various accounting department supervisors began to plan for courses of instruction, some general and some technical, in the following accounting subjects:

Revenue Accounting	General Bookkeeping
Rate and Division Work	Financial Statements
Disbursement Accounting	Annual Reports
Payroll Accounting	Road and Equipment Accounting
Accounting for Taxation	Joint Facility Accounting
Accounting for Insurance	Statistics
Car Accounting	Punch Card Operations

At the outset, it was determined that the two areas requiring highly specialized skills, which could be most readily upset by loss of key personnel, were the rate and division and punch card offices. The specialized work performed in these offices would require on-the-job training supplemented by a detailed course of instruction, both for those employees currently on the job, and for those interested in and capable of filling in if manpower shortages should occur.

The training courses in these subjects being technical and involved, it was considered mandatory to hold the number of students in these courses to ten or less per instructor, so that the maximum benefit to the students might be obtained. At the same time, the overall training policy, as stated above, has been to provide instruction for all interested employees, regardless of their training or current job assignment. Two feasible solutions to this problem have been adopted:

1. *For those employees interested in rate and division training,* two separate classes are being conducted, one for "on-the-job" students, and one for "off-the-job" students. "On-the-job" classes, with eight students, meet for two-hour sessions, three nights a week. This is an intensified program, in which complicated problems are presented for solution and discussion. Subject matter is readily available, since the students are constantly dealing with such problems in their daily work. At the close of the course, participants will be tested, to aid in determining the effectiveness of the course.

The "off-the-job" program consists mainly of lectures in the opening sessions, leading into problem discussion as the students become sufficiently familiar with the processing of waybills and waybill abstracts, and basic rate structures. While no testing was originally proposed for this group, students have expressed interest in being tested for their own satisfaction. "Off-the-job" classes also meet thrice weekly for two-hour periods, with an attendance of six employees. A third course, dealing with the less technical phases of revenue accounting, is described below.

2. *For those employees interested in punch card applications* pertinent to railroad accounting, a single course is presented. Opening sessions cover operation and application of the machines, matters of general interest. Later meetings are of a more specialized nature, dealing with wiring and procedural problems, of interest mainly to employees actually operating or closely connected with the equipment. Since several of the employees concerned have already taken courses provided by the local International Business Machines office, these classes will be in the nature of review and continuation of training, pointed specifically at the work at hand. Here again, students participating will be tested to determine the effectiveness of presentation.

Three General Courses

Three courses of a more general nature have been inaugurated thus far. The first one outlined disbursement accounting. Classes met for two-hour sessions twice weekly, for four weeks. The accounting channels for an invoice, from the actual purchase—through the purchasing agent or general storekeeper to the auditor of disbursements—the preparation of vouchers and expense distribution, were covered. Closing sessions were devoted to the processing of completed overcharge and loss and damage claims, and the preparation of bills collectible. The attendance at these classes averaged 35 employees.

Concurrent with the disbursements class, a school covering car accounting began, using the car service and per-diem rules as the text. The various rules covering car accounting were discussed, also the preparation of wheel, interchange and junction reports. The actual flow of work through the office of the auditor of equipment service accounts was described, with detailed explanation of preparation of car record books and per diem and mileage statements. I.C.C. accounting classifications affecting car accounting were also reviewed. These classes were held twice weekly, for a period of ten weeks, with an average attendance of 13.

A general course in revenue accounting is currently being given. This course presents an overall picture of the revenue accounting division, starting with a brief outline of the closely related portions of the work of the traffic and operating departments, and the rules of the

A.A.R. Accounting Division. The bills of lading and waybill forms are next described in detail and, following these introductory sessions, the work performed in each of various bureaus of the office of the auditor of revenues will be described, as well as the purpose of each bureau and, to some extent, the procedures followed. These classes meet for one hour three nights per week, with an attendance of 50.

While the purpose of the specialized schools is to train and improve employees on the job and likely replacements, the more general schools offer an opportunity for all employees to learn more about each other's work, including the work of other branches of the accounting department, and to see more clearly the place and importance of their own work in an office-wide picture.

In presenting the general courses, considerable use of the actual forms utilized has been made, as well as blackboard illustrations. To maintain interest in the subject matter and encourage student participation, the importance of discussion is being emphasized and questions from students are encouraged. An important aim in all classes is to let no reasonable question go unanswered. So far this aim has been accomplished, although in some cases extensive research by the instructors between class meetings has been necessary.

In addition to acquainting employees with a wider view of the work in which they are engaged and stimulating their interest, these courses have provided an excellent opportunity for the officers making presentations to review their own work, and in some cases procedural improvements have resulted. Another gratifying development in the training program has been the number of supervisors who have attended courses entirely outside their own field, to get a better picture of operations elsewhere in the accounting department. The attendance at the general classes has been encouraging, and the experience gained in their presentation will result in better classes in the future.

We feel that all concerned are being amply repaid for the time spent on this educational program. From the standpoint of employee morale, the company is proving its interest in their future as well as their present welfare. The company benefits from increased efficiency produced through interested employees better understanding their assignments. It is our aim henceforth to have at least one accounting school in progress at all times.

Program for Supervisors

We have recently inaugurated a program for top accounting supervisors. The manifold activities involved in railroad accounting tend to create specialists in the several fields. Officers with a wide variety in accounting background are developed by the "up from the ranks" tradition. The study of accounting theory and practice as applied to railroading is an effective means of broadening such men.

Ten selected supervisors have chosen their own level in attacking this major subject. Four have chosen to review accounting principles, five are commencing with intermediate studies, and one, having completed formal training, is tackling an advanced tax course. This program consists of home study from texts provided by the company. There are no set assignment schedules; each man proceeds at his particular speed, with coaching provided by officers having wide experience and background in railroad accounting. Coaches and students gather at an informal weekly meeting, for discussion of both problems from the texts and actual problems which have arisen in the regular work of the department. These meetings have proved immensely stimulating, both to coaches and students.

Lecture and demonstration of the principles of operation of an alphabetic accounting machine in the basic punch card class

The Ozalid Streamliner. The operator is placing the translucent original of the freight commodity statistics on sensitized paper prior to feeding it into the machine

How the B. & O. Reduces Expense Of Form Duplicating

Specially written for *Railway Age* by
C. A. STRICKLAND
Manager, Office Methods and Procedures
Baltimore & Ohio

The use by the Baltimore & Ohio of an Ozalid "streamliner" (whiteprinter) for some types of form and record duplicating has reduced by about 75 per cent the cost of this work over former methods used. This machine was installed in the road's duplicating bureau in the fall of 1950. The bureau reproduces forms, reports, booklets, charts, brochures, and other material on offset presses, Hectographs, and Ozalid machines. The main purpose of the duplicating bureau is to supplement the work of the company's printing plant by reproducing in runs of 2 to 10,000 copies, maximum size 10 in. by 14 in., where fast service is an important factor.

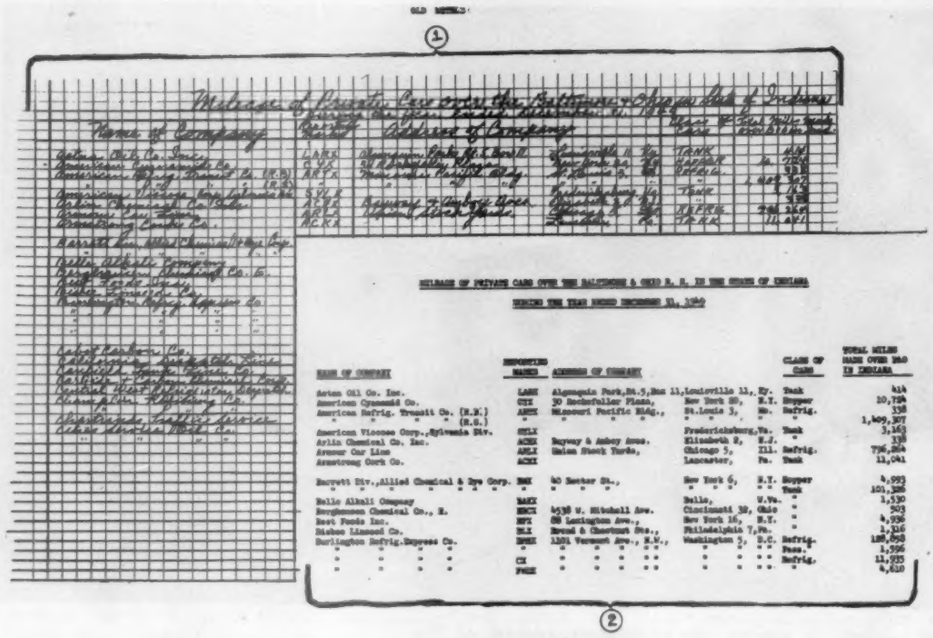
The whiteprinter is used principally to reproduce 8- to 50-copy runs of typed information. However, it also duplicates handwritten and drawn material. Substantial savings in clerical costs are possible where copies of reports containing handwritten data will suffice, thus eliminating the typing and verification expense. This is especially important in departments where persons are not available to handle all the typing work.

The operation of the whiteprinter up to this time has been devoted largely to work of the accounting department. This reflects that department's interest in the operation and the fact that the clerical work of the department lends itself to the process. Many applications have been found in other offices (Table 1), however, and demand for this service is growing steadily.

Specifically the Ozalid reproduces copies of typed, handwritten, photographic, drawn, and printed material on sensitized paper from either Ozalid masters or other translucent paper. It is a facsimile reproduction process, a method of copying any record which will transmit light. There are two steps: (1) exposure to light; and (2) subsequent exposure to ammonia vapor. It produces positive copies directly through dry development. The Ozalid method is a contact process, consequently enlargements or reductions are not possible.

The maximum hourly production ranges from 250 to 700 copies, size 8½ in. by 11 in., depending upon the translucency of the original documents. The machine will reproduce from material on paper up to 42 in. in width and of any required length onto sensitized paper, card stock, film, plastic, or cloth.

The machine is easy to operate. The operator places a translucent original on Ozalid sensitized paper and feeds both into the machine where they are conveyed around a revolving glass cylinder which incloses a high-pressure mercury vapor lamp. Here ultraviolet rays penetrate the



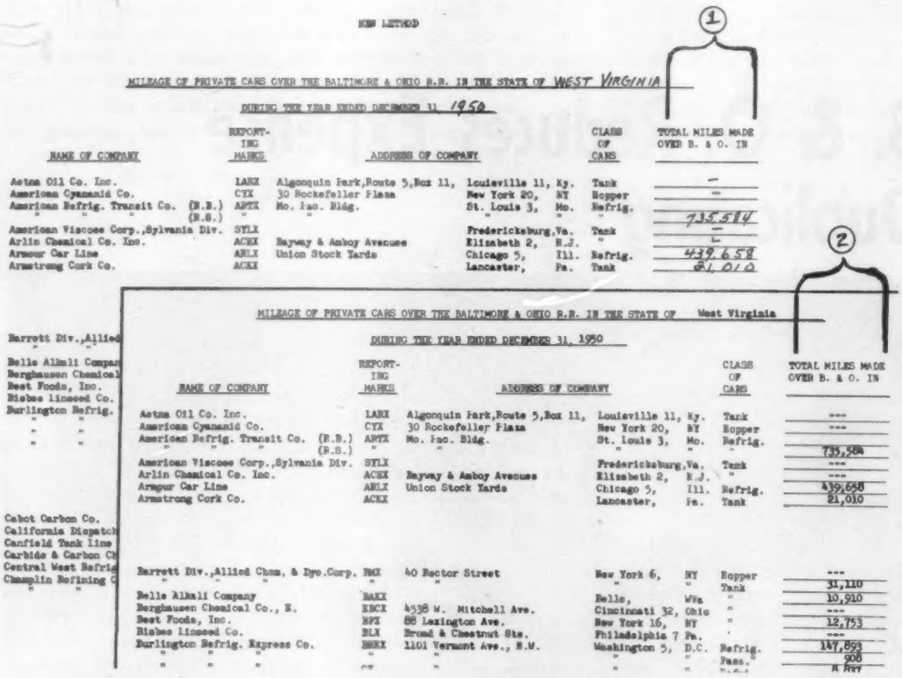
OLD METHOD

MILEAGE OF PRIVATE CARS OVER THE BALTIMORE & OHIO R.R. IN THE STATE OF INDIANA

DURING THE YEAR ENDED DECEMBER 31, 1950

NAME OF COMPANY	REPORTING MARKS	ADDRESS OF COMPANY		CLASS OF CARS	TOTAL MILES MADE OVER B&O IN INDIANA
Aetna Oil Co. Inc.	LAKE	Algonquin Park, Rt. 5, Box 11,	Louisville 11, Ky.	Tank	414
American Cyanamid Co.	CYX	30 Rockefeller Plaza,	New York 20, N.Y.	Hopper	10,794
American Refrig. Transit Co. (R.R.)	APTX	Missouri Pacific Bldg.,	St. Louis 3, Mo.	Refrig.	158
" " " (R.S.)	"	" " "	" " "	"	1,409,307
American Viscose Corp., Sylvania Div.	SYLX		Fredericksburg, Va.	Tank	3,163
Arlin Chemical Co. Inc.	ACHX	Bayway & Amboy Aves.	Elizabeth 2, N.J.	"	138
Armour Car Line	ARLX	Union Stock Yards,	Chicago 9, Ill.	Refrig.	736,268
Armstrong Cork Co.	ACKX		Lancaster, Pa.	Tank	11,041
Barrett Div., Allied Chemical & Dye Corp.	BRX	40 Rector St.,	New York 6, N.Y.	Hopper	4,993
" " " " " "	"	" " "	" " "	Tank	101,396
Belle Alkali Company	BAKX		Belle, W.Va.	"	1,530
Borghausen Chemical Co., E.	EBCX	4538 W. Mitchell Ave.	Cincinnati 32, Ohio	"	503
Best Foods Inc.	BFX	68 Lexington Ave.,	New York 16, N.Y.	"	4,936
Blebes Linseed Co.	BLX	Broad & Chestnut Sts.,	Philadelphia 7, Pa.	"	1,316
Burlington Refrig. Express Co.	BREX	1101 Vermont Ave., N.W.,	Washington 5, D.C.	Refrig.	138,868
" " " "	"	" " " "	" " "	Pass.	1,596
" " " "	CX	" " " "	" " "	Refrig.	12,933
" " " "	PREX	" " " "	" " "	"	4,810

Under the old method of handling private car-line mileage over the B. & O. in the various states data were first hand-written on ruled sheets and then typed. Only four copies of the report are required but each one runs about 37 pages



NEW METHOD

MILEAGE OF PRIVATE CARS OVER THE BALTIMORE & OHIO R.R. IN THE STATE OF WEST VIRGINIA

DURING THE YEAR ENDED DECEMBER 31, 1950

NAME OF COMPANY	REPORTING MARKS	ADDRESS OF COMPANY		CLASS OF CARS	TOTAL MILES MADE OVER B. & O. IN
Aetna Oil Co. Inc.	LAKE	Algonquin Park, Route 5, Box 11,	Louisville 11, Ky.	Tank	---
American Cyanamid Co.	CYX	30 Rockefeller Plaza	New York 20, NY	Hopper	---
American Refrig. Transit Co. (R.R.)	APTX	Mo. Pac. Bldg.	St. Louis 3, Mo.	Refrig.	735,584
" " " (R.S.)	"	" " "	" " "	"	---
American Viscose Corp., Sylvania Div.	SYLX		Fredericksburg, Va.	Tank	---
Arlin Chemical Co. Inc.	ACHX	Bayway & Amboy Avenues	Elizabeth 2, N.J.	"	439,658
Armour Car Line	ARLX	Union Stock Yards	Chicago 9, Ill.	Refrig.	81,010
Armstrong Cork Co.	ACKX		Lancaster, Pa.	Tank	

MILEAGE OF PRIVATE CARS OVER THE BALTIMORE & OHIO R.R. IN THE STATE OF West Virginia

DURING THE YEAR ENDED DECEMBER 31, 1950

NAME OF COMPANY	REPORTING MARKS	ADDRESS OF COMPANY		CLASS OF CARS	TOTAL MILES MADE OVER B. & O. IN
Aetna Oil Co. Inc.	LAKE	Algonquin Park, Route 5, Box 11,	Louisville 11, Ky.	Tank	---
American Cyanamid Co.	CYX	30 Rockefeller Plaza	New York 20, NY	Hopper	---
American Refrig. Transit Co. (R.R.)	APTX	Mo. Pac. Bldg.	St. Louis 3, Mo.	Refrig.	735,584
" " " (R.S.)	"	" " "	" " "	"	---
American Viscose Corp., Sylvania Div.	SYLX		Fredericksburg, Va.	Tank	---
Arlin Chemical Co. Inc.	ACHX	Bayway & Amboy Avenues	Elizabeth 2, N.J.	"	439,658
Armour Car Line	ARLX	Union Stock Yards	Chicago 9, Ill.	Refrig.	81,010
Armstrong Cork Co.	ACKX		Lancaster, Pa.	Tank	
Barrett Div., Allied Chem. & Dye Corp.	BRX	40 Rector Street	New York 6, NY	Hopper	---
" " " "	"	"	" "	Tank	35,110
Belle Alkali Company	BAKX		Belle, WVa	"	10,910
Borghausen Chemical Co., E.	EBCX	4538 W. Mitchell Ave.	Cincinnati 32, Ohio	"	---
Best Foods, Inc.	BFX	68 Lexington Ave.	New York 16, NY	"	12,753
Blebes linseed Co.	BLX	Broad & Chestnut Sts.	Philadelphia 7 Pa.	"	---
Burlington Refrig. Express Co.	BREX	1101 Vermont Ave., N.W.	Washington 5, D.C.	Refrig.	147,893
" " " "	"	" " "	" " "	Pass.	906
" " " "	CX	" " "	" " "	Refrig.	8,227

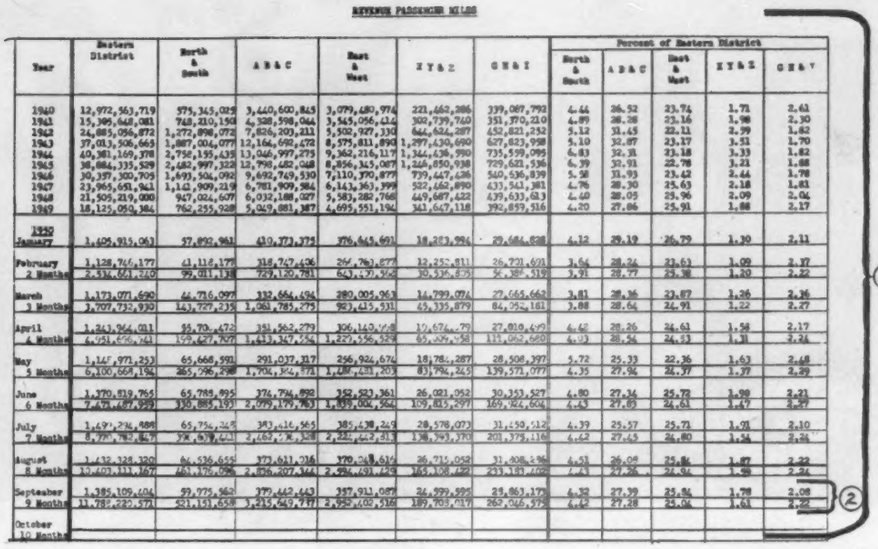
Under the new method of making out this same report a pre-printed form is used and only that information shown in bracket 1 is hand entered. Typist then adds the data on the same type form (on translucent paper) and the required number of copies are run

translucent originals reducing to a colorless compound that part of the Ozalid sensitized surface which is unprotected by the lines or image of the original. Thus, after printing, an exact replica of the original remains. To complete the job the "print" is fed into the dry developer. The whole operation, printing and dry developing, is finished in less than 30 seconds and the reproduction is completely dry and ready for use.

Recently a cost analysis was made. Jobs were selected to give a cross section of the various types of work handled. A study of eleven representative jobs showed that the cost on Ozalid ranged from 9 to 83 per cent of the cost by former methods. However, it is true that the jobs run on this machine are selected on the basis of this being a less expensive process for them. New applications are being found daily. Work formerly sent outside the company for reproduction is now being diverted to this process.

The work which has been reproduced on the Ozalid machine may be grouped into four classes:

1. Form outlines and constant data of recurring statements. The form and constant data are imprinted on a film matte. Figures



REVENUE PASSENGER MILES

Year	Eastern District	North & South	A B & C	East & West	X Y & Z	G H & I	Percent of Eastern District: North & South	A B & C	East & West	X Y & Z	G H & I
1940	12,972,563,719	575,345,025	3,440,600,845	3,079,480,974	221,660,286	339,087,792	4.44	26.52	23.74	1.71	2.61
1941	15,309,648,081	748,210,150	4,328,598,044	3,545,056,412	302,739,760	351,370,210	4.89	28.28	23.16	1.98	2.30
1942	24,885,086,872	1,272,898,072	7,826,203,211	5,502,927,330	644,624,287	452,821,252	5.12	31.45	22.11	2.59	1.82
1943	37,013,506,669	1,887,004,077	12,166,692,472	8,575,811,890	1,297,430,690	627,823,958	5.10	32.87	23.17	3.51	1.70
1944	40,381,169,378	2,758,195,435	13,046,997,275	9,362,216,117	1,344,638,980	735,599,095	6.83	32.31	23.18	3.33	1.82
1945	38,884,335,529	2,682,997,322	12,798,682,048	8,856,345,087	1,226,850,938	729,621,534	6.39	32.91	22.78	3.21	1.88
1946	30,397,300,709	1,693,504,092	9,692,749,530	7,110,370,877	779,447,626	560,536,939	5.58	31.93	23.42	2.66	1.78
1947	23,965,691,943	1,142,909,259	6,781,909,584	6,143,363,399	552,662,890	435,563,381	4.76	28.30	25.63	2.18	1.83
1948	21,505,219,000	947,024,607	6,032,188,027	5,583,282,768	469,687,422	439,633,613	4.40	28.05	25.96	2.09	2.04
1949	18,125,050,384	762,255,928	5,049,881,387	4,695,551,194	341,647,118	392,859,516	4.20	27.86	25.91	1.88	2.17
1950 January 1	1,405,915,063	57,892,961	410,773,375	376,645,693	18,283,924	29,684,838	4.12	29.19	26.79	1.30	2.11
February 2 Months	1,128,746,177 2,534,661,240	41,118,179 99,011,138	318,747,436 729,520,811	264,786,677 641,432,370	12,255,811 30,539,735	26,721,602 56,406,440	3.64 3.91	28.24 28.77	23.63 25.30	1.09 1.20	2.37 2.22
March 3 Months	1,173,071,690 3,707,732,930	44,716,097 143,727,235	332,664,494 1,061,785,275	280,005,963 963,415,531	14,799,074 45,335,879	27,665,662 84,072,181	3.81 3.88	28.36 28.64	23.87 24.91	1.26 1.22	2.36 2.27
April 4 Months	1,343,964,081 5,051,696,741	55,704,472 199,431,707	351,562,279 1,413,347,554	306,140,968 1,269,556,529	17,674,479 63,009,358	27,810,649 111,882,830	4.42 4.03	28.26 28.54	24.61 24.53	1.58 1.31	2.17 2.24
May 5 Months	1,147,971,253 6,200,668,194	65,668,591 265,796,298	291,037,317 1,704,384,871	256,924,674 1,526,481,203	18,784,287 83,792,245	28,506,997 139,571,077	5.72 4.35	25.33 27.94	22.36 24.37	1.63 1.39	2.48 2.29
June 6 Months	1,370,819,765 7,571,487,959	65,788,895 330,885,193	374,794,892 2,079,179,763	352,523,361 1,879,004,564	26,021,052 109,813,297	30,353,527 169,924,604	4.80 4.43	27.34 27.83	25.72 24.61	1.90 1.47	2.21 2.27
July 7 Months	1,491,296,886 9,062,784,845	65,756,249 396,641,442	343,416,565 2,422,596,328	385,438,249 2,264,442,813	28,578,073 138,391,370	31,450,512 201,375,116	4.39 4.42	25.37 27.45	25.71 24.80	1.91 1.34	2.10 2.24
August 8 Months	1,432,328,320 10,495,113,165	64,536,645 461,178,087	373,611,016 2,796,207,344	370,048,616 2,634,491,429	26,711,052 165,102,422	31,408,496 233,183,612	4.51 4.43	26.08 27.26	25.84 24.84	1.87 1.58	2.22 2.24
September 9 Months	1,285,109,404 11,780,222,569	59,775,962 521,151,658	379,442,443 3,215,649,787	257,911,087 2,892,402,516	24,599,595 189,702,017	23,861,177 257,046,575	4.52 4.42	27.39 27.28	25.84 25.04	1.78 1.61	2.08 2.22
October 10 Months											

Statement of revenue passenger-miles. Prior to the use of Ozalid all the information in bracket 1 had to be typed and verified each month. Now only that information in bracket 2 has to be typed and verified for a given month

are entered on the matte by pencil and the required number of copies reproduced on Ozalid. After use the pencil figures may be erased easily and the matte reused many times. This is a fast and economical means for making a report available for use where pencil figures are acceptable.

TABLE 1—FORMS AND REPORTS REPRODUCED BY OZALID PROCESS

(Month of April 1951)

Department and Job Title	No. Pages	No. Copies Reproduced: Per Page	No. Copies Reproduced: Total	Previous Method of Duplication
ACCOUNTING				
Number Employees and Compensation	2	20	40	Hectograph
Statement of Revenue, Expense, Etc.	1	50	50	Photo-Offset
Carloads — Coal Only	3	8	24	Typewriter
Total Carloads — Weekly Average	3	20	60	Typewriter-Mimeo
Average Tons Per Car	2	20	40	*
Record of Photostat Work	2	25	50	*
W. Va. Transportation Co. Equipment, Etc.	1	30	30	Spirit Duplicator
Journal Entry	12	8	96	Typewriter
Revenue Passengers Carried, Etc.	1	8	8	Typewriter-Mimeo
Station Earnings	48	5	240	Typewriter
Departmental Expenses	10	10	100	Typewriter-Mimeo
Daily Account Control	1	60	60	*
Revenue Ton Miles	1	12	12	Typewriter-Mimeo
Revenue Passenger Miles	1	12	12	Typewriter-Mimeo
W. Va. Transportation Co. Balance, Etc.	8	20	160	Offset-Spirit Dup.
Curtis Bay R. R. General Balance, Etc.	2	8	16	Offset-Spirit Dup.
Work Sheet — Audi or Freight Traffic	1	5	5	Manual
Budget Statement	1	50	50	Photo-Offset
PERSONNEL				
Number Employees Entering Mil. Ser., Etc.	1	4	4	*
Employees Service Record	4	2	8	Typewriter
Letter	3	15	45	Typewriter
OFFICE METHODS & PROCEDURES				
Letter	1	10	10	Typewriter
Flow Chart	1	6	6	Photostat
CAR SERVICE				
Mileage of Private Cars over B.&O.	37	4	148	Typewriter
GENERAL CLAIM AGENT				
Letter	1	50	50	Typewriter
GENERAL FREIGHT CLAIM AGENT				
Office Memoranda	6	50	300	Spirit Duplicator
INDUSTRIAL DEVELOPMENT				
Proposed Industrial Sites	61	2	122	Photostat
Total	215		1,746	

(*) Initial Issue

Note: Page size of final copies varies from 6 in. by 11 in. to 17 in. by 22 in.

2. Cumulative statements. Forms are drawn and headings typed on translucent paper. Entries are entered weekly or monthly and the required copies are reproduced after each posting. This eliminates the retyping and verification of the entire report periodically as new postings are made. The report of revenue passenger-miles and many others are in this group.

3. Forms and reports reduced in size. Large-size reports are typed on regular paper stock and reduced by photographing. The negative thus obtained is used to make a positive film which in turn is run through the Ozalid machine to reproduce copies. The monthly budget statement and statement of revenues, expenses, etc., are duplicated in this way.

4. Form outlines and headings on translucent paper. The form outline of a report is drawn, and the headings are typed, on translucent paper. Duplicate masters of this material are obtained on the Ozalid. Then monthly or other periodic data are entered on the duplicate master and copies reproduced by the machine. This process eliminates the ruling and heading of new forms each time a report is required.

The quality of the reproduction job is largely dependent upon the translucency of the originals and the heaviness of their images. This, or similar, equipment could be used to advantage in other work areas if the documents to be duplicated were on translucent paper. For example, the preparation of correction account forms in the office of the auditor of freight traffic. An experiment with this operation produced good results where the statement of differences was on translucent paper having strong images. There remain, then, many further opportunities for reducing the cost of duplication if and when translucent paper is more widely accepted.

TABLE 2—COMPARATIVE COSTS OF DUPLICATING JOBS

(Annual Basis)

Job Number	No. Pages	No. Copies Reproduced: Per Page	No. Copies Reproduced: Total	Estimated Cost: By Ozalid Process	Estimated Cost: By Previous Method Used
1	600	2	1,200	$42.00	$480.00
2	100	5	500	47.30	524.10
3	576	5	2,880	93.40	263.00
4	60	8	480	31.50	148.80
5	12	12	144	5.40	21.50
6	12	12	144	5.40	21.50
7	12	20	240	6.90	24.35
8	12	8	96	27.75	93.70
9	96	20	1,920	28.50	44.20
10	12	50	600	192.00	246.00
11	24	8	192	16.25	19.50
Total	1,516	5.4*	8,396	$496.40	$1,886.65

* Average

All Canadian Pacific rolling stock is depreciated on the user base

Why the Canadian Pacific Prefers User Basis for Depreciation

Road's accountants hold this "realistic" method tends to smooth out peaks and valleys in annual income figures, and as a result encourages stabilized employment*

While most railroads on the North American continent use the "straight line" method of depreciation accounting, the Canadian Pacific follows what is known as the "production" or "user" method. Since depreciation accounting is a system for *allocating* the cost of tangible capital assets (less any salvage value) over the estimated useful life of the asset, in a systematic or *rational* manner, C.P.R. officers feel that the user method is the best one for depreciating motive power, rolling stock, road property and work equipment. The user method allocates the original cost, they point out, in direct proportion to the use of the asset or the volume of business produced by it during the period, at a fixed rate per unit of use.

The principal advantage of the user method, as the Canadian Pacific sees the picture, is that it allows a flexibility in the amount of depreciation charges, enabling them to follow fluctuations in traffic. This, in the opinion of this road's management, is the most equitable method of depreciation accounting, for when traffic volume is high, relatively high charges are made, while when traffic decreases, the charges are reduced proportionally. This, the C.P.R. officers point out, allows management to control expenses when the traffic volume is low and contributes to labor stabilization by lessening the need for drastic force reductions. Also, the resulting net income, in periods of both high and low traffic volume, is, in the opinion of the Canadian Pacific accountants and others, more realistically stated than it is when the straight line method is used. Further, as stated by one witness at a rate hearing, Accountant K. W. Dalglish, senior partner of Deloitte, Plinder, Haskins & Sells, "It seems to me that the user basis . . . is to the advantage of the users [patrons] of the railroads, as they are called upon to pay amounts for depreciation relative to the service given them." Thus, in periods of high traffic volume the railroad patron is paying more toward the depreciation of the equipment than he is when the traffic volume is low.

The Canadian Pacific management feels that the user basis is particularly suitable from the ratemaking point of view. Under the straight line method an "average" charge is made to depreciation. Since traffic, or use, is generally above or below "average" in any given year, C.P.R. officers feel that the user base, which results in higher charges in good years and lower charges in bad years, is fairest to the railroads' customers.

To support the view that the user method is sound accounting, the Canadian Pacific people say that actually, in some relatively bad years, the straight line method of depreciation results in income being understated. For example, technically, one of the larger Class I railroads in 1933 set aside $1,558,146 for depreciation, under the straight line method. In reality it could have done no such thing, for that year the carrier actually incurred a net deficit of $1,536,894. Under the user method, depreciation charges would have been $1,087,639, a decrease of $470,507. This would have reduced the net deficit by that amount, and would have been closer to

* This is Part I of a two-part article. The second part will appear in an early issue of *Railway Age*.

Doubleheaders are necessary in the Canadian Rockies

reality. In 1947, on the other hand, $2,655,478 was set aside under the straight line method, but if the user basis had been used, $2,940,222 would have been the amount. Since the carrier had a net profit of more than $7 million, this would have been a realistic charge. While the company's net income would have been decreased somewhat, it would have been paying to the depreciation account when it was able to do so. This, the Canadian Pacific contends, is realistic accounting. Paul Grady, a senior partner of Price Waterhouse & Co., called before the Board of Transport Commissioners in a recent rate case, agreed, when he said that the user method provides "a more equitable charge against periodic income."

The Canadian Pacific management further states that, in effect, the need for increased charges to the depreciation account during periods of heavy use of railroad plant long has been recognized. This recognition has taken the form of accelerated depreciation or special amortization in these periods.

The Canadian Pacific has been permitted to use the user method by Canadian government tax authorities. The Interstate Commerce Commission requires United States railroads to employ straight line depreciation accounting in reporting to it.

(All photos courtesy Santa Fe Railway)

The Santa Fe's new hump-retarder yard at Pueblo. The hump is in the left background. The classification yard has a capacity of 430 cars, the receiving yard 495 cars, and the departure yard 380 cars

Retarders Are Used in This Small Yard

New facility built at Pueblo, Colo., in connection with a grade-crossing elimination project also involved relocation of the road's freight terminal

By O. F. ARTHUR and W. H. CLARK

What started out primarily as a project to eliminate through train movements and to reduce switching movements of Atchison, Topeka & Santa Fe and Colorado & Southern trains across several of the principal streets in Pueblo, Colo., turned out to be an undertaking that not only achieved these objectives but also resulted in relocation of the Santa Fe's freight terminal at that point. One of the interesting features of this project is the construction of one of the smallest—if not the smallest—hump-retarder yards in the country.

Of special interest to shippers is the Santa Fe's expectation that the new facilities will (a) greatly reduce terminal delays for through freight trains; (b) speed up interchange operations; (c) eliminate a considerable amount of switching at other terminals formerly done in connection with "blocking" of trains at those terminals, thus expediting shipments; and (d), through removal of tracks in the former yard, make available for industrial property a rather large area conveniently located near the business district of Pueblo.

* Mr. Arthur is division engineer of the Atchison, Topeka & Santa Fe at Pueblo and Mr. Clark was assistant engineer in charge of the terminal project.

The increase in the density of vehicular traffic, which has paralleled the rapid growth of Pueblo, brought about serious congestion of street traffic, as well as delays to switching operations, where two heavily traveled streets crossed the old freight yards of the Santa Fe within the downtown district. This yard also handled the business of the C. & S. at that point. It became evident several years ago that something would have to be done to relieve this situation.

After a prolonged study it became clear that the most feasible solution to the problem was to move the freight terminal to an outlying district, rather than to attempt a series of grade separations within the city. The old yard, built about 70 years ago, had been expanded from time to time to handle increased traffic but, owing to physical limitations, further expansion became impossible. The yard tracks were too short, the longest having a capacity of about 55 cars, and the necessity for doubling trains was frequent. Moreover, the entire yard was on a curve, making it difficult to transmit signals.

Being an industrial city, a large volume of railroad traffic originates and terminates in Pueblo; also, inter-

Car-retarder operator's tower is in the left foreground. Behind it near the crest of the hump lead is the humpmaster's office. The steel-sided building at the right of the hump lead houses the air compressors and signal equipment

The yardmaster has his office at the top of the four-story tower at the corner of the yard office where he can observe all yard operations. The building in the right foreground is the new wash-and-locker building

A new freight station with team tracks was built east of the yard, where it is conveniently located with respect to the city's wholesale and industrial district

change is made with four other railroads. In selecting the site for the new yard, good judgment dictated that it be located in close proximity to the train yards of the other railroads so as to provide the most flexible and expeditious interchange between all railroads operating in the Pueblo area. It was also necessary to select a location where operation of the yard would not interfere with cross-town vehicular traffic. These conditions were satisfied by a site on the west margin of the business section of the city, immediately adjacent to the train yards of the Denver & Rio Grande Western and the Missouri Pacific. Two viaducts were also available for carrying vehicular traffic over the yard, with no grade crossings needed within the yard limits.

In making a decision as to the type of yard to be constructed, consideration was first given to a flat switching yard, but the restricted area and its topography on the northerly end did not lend itself to this type of operation. The terrain ascends northward on a one per cent grade, while the lower or southerly end of the area is fairly flat. This seemed to indicate that a gravity yard would be more suitable, and a study was made to determine whether a retarder installation would be economically practical. The proposed yard would be relatively small,

The freighthouse dock is constructed of concrete and steel and is covered to protect shipments

and the single-car count fell just above the borderline in justifying the retarder type over the flat-switching type of operation in accordance with present accepted standards. So a plan for a modified hump-retarder yard was adopted.

New Terminal Is Compact

A 16-track classification yard, consisting of two groups of eight tracks each, was constructed in a northwest-southeast direction. The capacity of these tracks ranged from 20 to 35 cars each. Parallel to this yard at its east end and extending north of it, a six-track departure yard was constructed, these tracks having a capacity of from 90 to 100 cars each. East of the departure yard, a four-track receiving yard was built, these tracks also having a capacity of 90 to 100 cars each. These three yards have a total car capacity of about 1,400 cars. Two additional receiving tracks, holding 75 cars each, were placed west of, and parallel to, the retarder lead where they also serve as auxiliary tracks for retarder operations. Car-repair facilities, installed immediately adjoining and east of the receiving yard, consist of three repair tracks and the necessary buildings and other facilities.

Space is available for future expansion of the classification yard to 21 tracks when necessary.

All switches at the hump end of the yard are of the electro-pneumatic type operated from a control tower. The operator in the tower also manipulates the controls for three retarders for regulating the speed of cars. The retarder operator's tower at the hump consists of a two-story brick building with radio and heating facilities located on the first floor and the retarder operator and his machine occupying the top floor.

A new interchange yard was built midway between the classification yard and the D. & R.G.W. train yard. The interchange yard consists of four tracks providing direct access at either end, thereby considerably reducing the time required to effect interchange between the Santa Fe-C. & S. on the one hand and the D. & R.G.W.-M.P. on the other.

A segment of single-track main line between Pueblo and Denver was relocated, providing a more direct route to the union passenger station. In conjunction therewith, centralized traffic control was installed, extending 12 miles north to the beginning of paired-track operation with the D. & R.G.W. This was done to speed operations over this segment of single track. The relocation required reconstruction of approximately one mile of main track and shortened the distance 0.7 mile.

Team-track and freighthouse facilities were placed a short distance east of the main yard, conveniently located to serve the wholesale and industrial district of Pueblo. Adequate space was provided for future expansion of team-track facilities; the driveways along these tracks and the unloading docks, and also the streets serving the freight station, were paved. Switching movements to these facilities do not cross any of the city throughfares, as was the situation at the old freighthouse location.

The freight station is a one-story brick building of modern design with office space for the agent's staff and the force of the Santa Fe Transportation Company, the railroad's trucking subsidiary. The building has an adequate wareroom with loading docks of concrete construction, one of which is covered throughout its entire length. The handling of freight is completely mechanized.

A yard office was constructed at the south end of the classification yard between the classification leads and the departure yard. This is a one-story brick building with a four-story tower at its north end. The yardmaster's office is located at the top of this tower in a glass-enclosed room so that he can observe all yard operations.

Scale Weigh Beam in Yard Office

An unusual weighing arrangement was installed in connection with the yard office. The largest track scale now in use on the Santa Fe system was placed alongside the building, with the weigh beam within the yard office. Cars for weighing are moved directly from the classification yard over the scales, and their weights are recorded by the weighmaster, who also performs other duties in the yard office.

Several other buildings were erected in connection

Left—The new auto dock is in the foreground and behind this can be seen the team-track area. Right—An unusual feature of the yard office is that the weigh beam of the track scales—largest on the system—is within the building

with this project. A one-story tile building was built immediately south of the yard office for housing modern locker-room facilities. At the crest of the hump, a small one-story building was built as an office for the humpmaster from which he directs his crew by means of radio and a loudspeaker system. A one-story building of steel siding and roof was built nearby to house the retarder air compressors and other signal facilities.

Five steel buildings were built at the repair yard to serve the mechanical forces and store department. These buildings consist of a storehouse and unloading dock; a repair foreman's office, which includes locker and washrooms; a combination garage, oil and paint shop; a blacksmith shop; and a mill shop. Concrete platforms were built for the length of the repair tracks.

Communications and Lighting

The latest and most modern communication systems are in use for the purpose of expediting all phases of yard operations. A Teletype system serves the yard office and retarder operator's tower, by means of which consists are received simultaneously in advance of train arrivals from Denver, Trinidad, and La Junta. The tower operator's list is marked, as directed by the yardmaster, by means of an intercommunication system. By this method one step in normal retarder-yard procedure is eliminated.

A speaker system blankets the entire yard, and an intercommunication network serves the various offices in the yard and also the superintendent's, trainmaster's and dispatcher's offices. Diesel-electric yard locomotives, equipped with radio, are used within the yard. The radios are dual controlled, permitting communication with either the yardmaster or the humpmaster. Flexibility in engine assignments is thereby provided. Car checkers are equipped with "walkie-talkie" radios.

For night operation, the yard is lighted by two 126-ft. floodlight towers. One is located just below the crest of the retarder lead, giving an average light intensity, measured on the horizontal plane, of three to four footcandles at the retarders. The other is located about 800 ft. beyond the lower end of the classification yard. Average light intensities vary from one-fourth to one-half footcandle, measured on the horizontal plane, throughout the yard. A total of 61 1,500-watt projectors were used to attain these intensities. Floodlighting is also provided for the interchange yard.

Construction

Some unusual difficulties were encountered in connection with the grading work. The area at the lower or southerly end of the yard was at one time the channel of the Arkansas river, and was later utilized as a dumping ground. Several acres of the area were swampland, with water attaining a depth of 14 feet in places. Many thousands of yards of refuse from the dump, and muck from the swamp, had to be removed and replaced with classified filling material to attain proper compaction and suitable bearing for the roadbed. Suitable material was not available nearby, so it was necessary to train-haul gravel from the bed of the Fountain river, several miles distant. The material thus hauled by train was then distributed and compacted with the contractor's equipment. Approximately 250,000 cu. yd. of train-hauled material was used in the main body of the yard.

It was necessary to cut through the hills at the extreme north end of the project to provide suitable grades for the retarder and departure leads. The excavated material, amounting to 200,000 cu. yd., was utilized to complete the grading in the northern section of the yard. All tracks were ballasted with slag or other suitable ballasting material.

In connection with the separation of grades for cross-town traffic, a steel-and-concrete viaduct was built at Eighteenth street. This is a five-span structure with a total length of 250 feet and extends over five tracks.

This project was carried out under the general direction of T. A. Blair, chief engineer system, and J. A. Noble, chief engineer of the road's Western lines, while O. F. Arthur, division engineer at Pueblo, had charge of the field supervision, and W. H. Clark, assistant engineer, had direct charge in the field.

New Great Northern Passenger Cars

Railway continues modernization program with 36 new cars built by A.C.F. and 59 built by Pullman-Standard

As announced in last week's *Railway Age*, each of the five new "Empire Builders" just placed in service by the Great Northern has 15 lightweight, streamline cars with coach and sleeping-car accommodations for 333 passengers. Each train includes one 60-seat coach, three 48-seat day-nite coaches, six sleeping cars and an observation-lounge car. New cars have also been acquired for a sixth complete train of "Western Star" equipment. This six-train fleet replaces the "Oriental Limited" and each train has a normal consist of 14 cars.

The new G. N. car equipment consists of 36 cars built by the American Car & Foundry Co. and 59 cars built by the Pullman-Standard Car Manufacturing Company. The A.C.F. cars include six each of the following types: 60-seat coaches, coffee shop-lounges, diners, observation-lounges, baggage-dormitory cars and baggage-mail cars. The Pullman-Standard cars include: 18 48-seat coaches; eight four-bedroom, 16-duplex-roomette cars; 16 two-compartment, five-bedroom, six-roomette cars; 16 one-compartment, three-bedroom, four-section, seven-duplex-roomette cars and one two-bedroom, one-drawing-room, buffet-observation-lounge car.

Distinctive Features

All the new cars are notable for unique color schemes and decorative treatment inspired by the northwest country through which the trains pass.

Sleeping car accommodations are of exceptional variety and include lower and upper berths, duplex roomettes, roomettes, bedrooms, compartments and drawing rooms. Bedrooms and compartments have closed-off space housing private toilet facilities. Bedrooms have aisle-side wardrobes.

End doors of all cars are equipped with electro-pneumatic door operators. All rooms in the sleeping cars, including duplex roomettes, have ice water on tap, in addition to the usual hot and cold water and electric razor outlets.

Day-Nite Coaches

Spacious seats in the day-nite coaches have adjustable reclining backs and leg rests. Each of the day-nite coaches has two ladies' rooms rather than the usual one, each complete with all restroom facilities and providing privacy in dressing quarters.

Window glass is double-pane, heat-resistant and fog-proof for full visibility under all weather conditions, reducing glare and radiant heat from the sun and insulating against outside temperatures, both hot and cold.

Radiant panel heating at the windows eliminates cold drafts during extremely cold weather. This is in addition to the usual type of thermostatically controlled pipe radiation at floor level.

A loudspeaker system serves all except the sleeping cars, for public announcements and radio programs. Selection of entertainment has been increased by installation of equipment for reproduction of wire-recorded music.

Equipment Built by A.C.F.

Of A.C.F.-built cars, the coffee shop-lounge represents the most novel interior design and decoration. Known as "The Ranch," this car is finished in the rustic homey atmosphere of a western ranch house. Embossed leather panels adorn the bulkheads and piers, while seats are upholstered in pinto leather. Polished red cedar posts form the bulkheads between the coffee shop and the lounge section. Each car is divided into four sections and is without vestibules. A passageway leads around the kitchen from the end door to the lunch-counter section which seats 14. The dining section has accommodations for 12.

The lounge has a seating capacity of 18, with nine luxuriously upholstered chairs ranged on either side. This car is entirely lighted indirectly by Luminator fluorescent fixtures built into the tops of the wood-faced beams below the ceiling, for a sunny daylight effect.

Dining cars are of the non-vestibule type, accommodating 36 persons. The kitchen is separated from the dining section by a foyer and at the steward's end of the car there are additional lockers, as well as a desk with both loudspeaker and microphone. Continuous fluorescent fixtures are placed in the ceiling over the tables on each side and around the ends of the dining room. Light distribution is controlled by a continuous row of glass-block lenses.

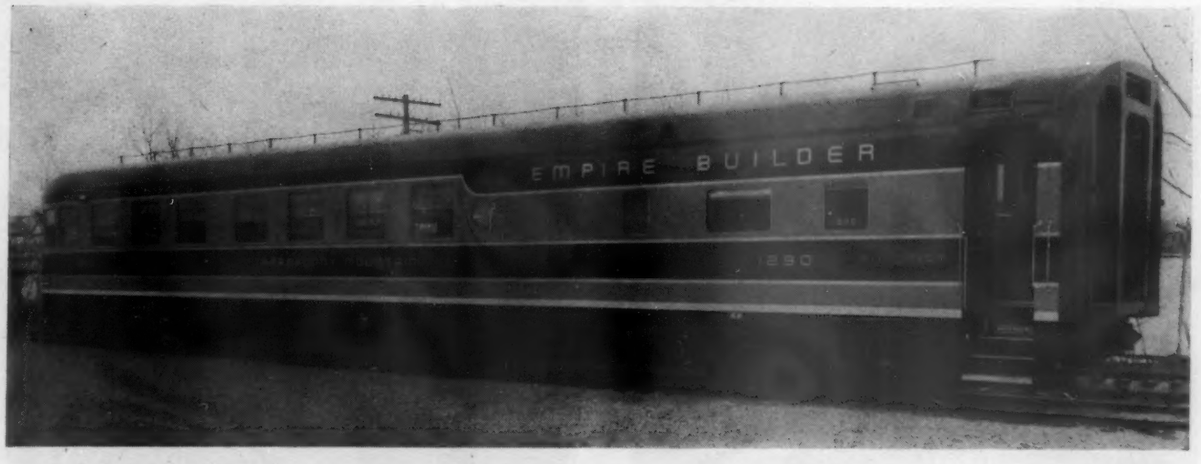
Each of the six A.C.F. coaches has seats to accommodate 60 passengers, with men's and women's lounges arranged at either end of the car. The bulkheads have framed etched stainless-steel panels graphically illustrating Great Northern motive power. Between the main room and the men's lounge there is a small area for the conductor furnished with a desk and swivel chair.

The baggage-dormitory cars have a 30-foot baggage compartment at one end and a crew's section with a steward's room at the other. Accommodations for 21 men are built into the main dormitory, which has seven sections of three-tier bunks for the dining crews.

The steward's bedroom is equipped with lockers, wardrobe and a folding washstand. A shower bath is enclosed by a curtain to separate it from the room.

The observation-lounge cars are divided into three principal sections, an observation and lounge room, the bar and utility area and the sleeping section, consisting of three roomettes. The observation room has a seating capacity of 18, with a two-passenger upholstered settee occupying the semi-elliptical end of the floor space.

A wing partition separates the observation room from the lounge. Two banquette seats on either side of the



Observation-lounge car built by American Car & Foundry Co.

Sleeping quarters in the baggage-dormitory car, with seven sections of three-tier bunks for the dining-car crew

"The Ranch" features the coffee shop-lounge cars built by American Car & Foundry Co.

partition have card tables placed diagonally and two chairs at each, covered with turquoise fabric. The lounge is furnished with four double settees, and a corner settee next to the partition between the lounge and the bar. The bar has a refrigerator, ice-cube storage and a liquor locker.

The six mail-baggage cars, built for the "Western Star," conform to U. S. Post Office requirements in the mail apartment. A wardrobe for mail clerks is placed at the forward end of the apartment on one side of the car. A toilet, lavatory, refrigerator and steam cooking equipment, on the opposite side, complete the facilities for the postal crew.

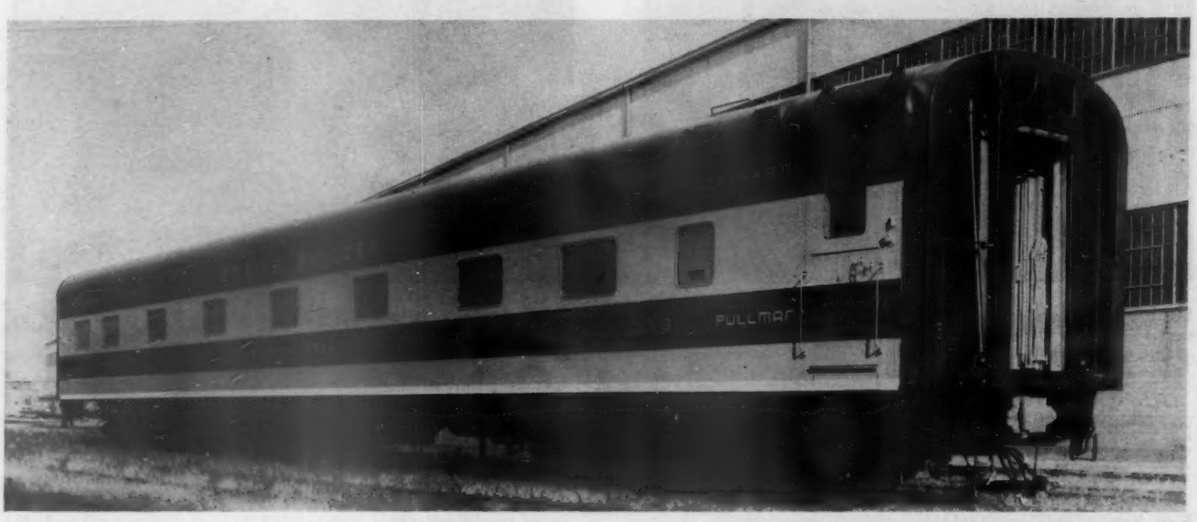
The cars are fundamentally constructed to A.C.F.'s design of body framing for lightweight trains using low-alloy high-tensile steel. Vertical loads are carried by the side frame which is of girder construction. Underframe, side frames and roof frame are fabricated by arc welding in jigs as subassemblies. The side sheets are applied by spot welding and the roof sheets by shielded-arc seam welding. The subassemblies are then joined by riveting, using rivets with streamline heads where exposed.

The principal dimensions of the cars are: Length over coupler pulling faces, 85 ft.; truck centers, 59 ft. 6 in.; height, rail to top of floor, 4 ft. 3 in.; height, rail to top of roof, 13 ft. 6 in.; width over side sills, 10 ft.

The cross-sectional contour conforms with A.A.R. recommended practice for new cars while the general construction conforms to all A.A.R. and R.P.O. strength requirements.

The car exteriors are painted an orange color with

Left—Dining-car colors are green on the floor, with light green ceiling, neutral side and end walls, accented with rose upholstery. The themes of the carved-glass wing partitions are iron mining, lumbering, wheat farming, and apple raising. Right—The lounge section in one of the American Car & Foundry Co. cars is set off from the observation room with a wing partition of carved glass and red birch Formica. Ceilings are gray, deck and frieze panels cream, and pier panels gold Kalistron, decorated with silhouette maps and seals of ten states and two Canadian provinces



One of the sleeping cars built by Pullman-Standard

olive green skirt, letterboard, roof and ends to match those now running. Gold striping is applied above and below the windows with a silver stripe at the side sill. The lettering and gold striping is Scotch-Lite made by the Minnesota Mining & Manufacturing Co.

The electric power for the coaches, the coffee-shop-lounge cars and the observation-lounge cars each is supplied by Waukesha diesel Enginators of 60 hp. rated capacity operating a 25-kw., 40-volt d.c. generator. The Gould storage batteries are 720 amp.-hr. capacity. A 200-gallon fuel tank is installed. The mail and baggage cars, the baggage dormitory cars and the dining cars have Safety 25-kw. Genemotors with Spicer drive. The Gould storage battery on the diner has a capacity of

A compartment with longitudinal folding berths

One of the 48-passenger coaches built by Pullman-Standard

1,320 amp. hr. All lighting is by incandescent bulbs, except in lounge and dining rooms where fluorescent ceiling fixtures are generally installed.

Heating is the Vapor zone system with unit-fin sidewall radiation supplemented by an overhead unit built into the air-conditioning system. There are radiant panels at all windows. A Vapor coal-fired auxiliary heater of the hot-water type is installed in coaches for standby purposes.

Air Conditioning

Frigidaire air-conditioning equipment is used in conjunction with Trane Company condensers; eight-ton cooling units are installed in all cars except the diners which have units of 10 tons capacity, seven tons for the dining room and three tons for the pantry-kitchen. The Frigidaire evaporator units are mounted above the ceilings and air is distributed either through Anemostats in small rooms and passageways, or Pyle-National Multivent ceiling panels in main compartments, dining rooms and lounges.

Schedule HSC air brake equipment, supplied by the New York Air Brake Company, includes the D-22 control valve and electro-pneumatic straight-air control. Simplex unit-cylinder clasp brakes are installed on the coaches and baggage-dormitory cars, half of which have American Brake Shoe and half New York Air Brake wheel-slide-control devices. Coffee-shop, dining and observation-lounge cars are equipped with Budd disc brakes and Rolokron wheel-slide control. Except on the observation-lounge, sand for braking purposes is delivered to the inside pair of wheels on one truck of each car on emergency brake application only. A Peacock

A bedroom with transverse upper and lower berths

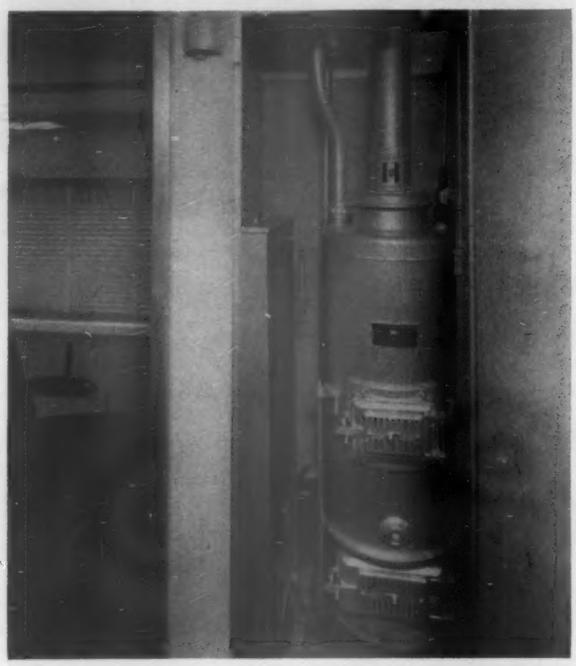
lever-type hand brake is applied at one end of each car.

National tight-lock couplers and yokes are installed with Waugh twin-cushion draft gears. Rotary-type uncoupling levers are operated from both sides of each car. Buffers are of the built-up type with adjustable stayrod suspension supports with fixed foot-plates. The mechanism is of the usual side-stem type with coil springs and a Fowler upper buffer mechanism at the top. The diaphragms are of Morton construction and closures, A.C.F. standard type with Goodrich rubber fabric.

Trucks

Trucks are of the four-wheel type with drop equalizers and have a wheel base of 8 ft. 6 in. They are equipped with bolster anchors and vertical shock absorbers. The frames are cast steel, with integral pedestals and dead lever fulcrum brackets, furnished by the General Steel Castings Corporation. This company also made the bolsters and spring planks. All springs are double coil of chrome-molybdenum steel made by American Steel Foundries.

Wheels are 36 in. in diameter, semimachined, having semicylindrical treads, and are of wrought carbon steel, furnished by the United States Steel Company. They are mounted on A.A.R. standard roller bearing axles having Timken 6-in. by 11-in. roller-bearing journals.



Vapor hot-water heater for standby service

Waukesha diesel Enginator unit rolled out to side of the car

Cars Built by Pullman-Standard

The 59 cars built by Pullman embody this manufacturer's welded girder-type construction, with underframes, sides, ends and roofs fabricated of high-strength low-alloy steel throughout. This type of car has been subjected to an 800,000-lb. squeeze test by the builder.

The cars are thoroughly insulated to control temperature and reduce exterior noises. Double-pane, shatterproof window glass, both heat and glare resistant, is used to assure insulation against window frosting and steaming and outside noises and dirt.

Complete air-conditioning adds to passenger comfort in all seasons of the year. Frigidaire electro-mechanical air-conditioning equipment is installed with thermostatic control and eight tons nominal capacity. Diesel-driven Enginators, and Genemotors with Spicer drive are installed on alternate cars as previously described.

All cars are equipped with the Vapor zone control steam heat, thermostatically governed. Radiant panel heating at the windows eliminates possible drafts during extremely cold weather. Floors also are heated and overhead heating is provided to operate in conjunction with the air conditioning system. The heating and cooling of all rooms in the sleeping cars is individually controlled by a thermostat in each room.

Car trucks are of the four-wheel, cast-steel, all-coil-spring type with roller bearings and vertical shock absorbers. As an additional safety feature, the end car is equipped with a powerful oscillating red light, visible at a considerable distance irrespective of weather. This light is automatically set in motion when train speed drops below a certain point. The locomotive also has an oscillating light.

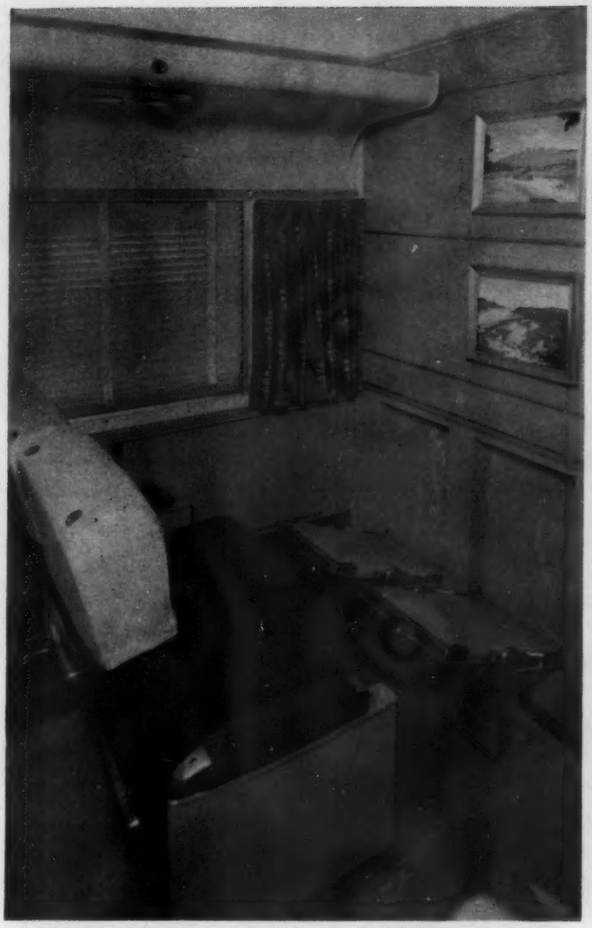
48-Seat Coaches

Having pioneered the Pullman-Standard designed 48-seat day-night coaches in the first transcontinental trains built in the postwar period, the G. N. again offers this type of accommodation in its new cars. These seats, placed farther apart, are equipped with chaise-longue leg rests which pull out from under the seat, making it possible for passengers to stretch out with their feet and legs fully supported. The Roto-Cline seats also feature individual ash trays and hammock suspension in the back and seat.

The main lighting system in the coaches consists of Luminator incandescent fixtures placed in the center of the ceiling designed to control high-intensity light to the aisle area and to direct diffused light to the upper walls and ceilings. Individual reading lights, controlled by each passenger, are installed in the under side of the luggage racks. The specified illumination intensity is 12½ footcandles at the reading plane.

Spacious ladies' and men's lounge rooms are available in each coach. All coach windows have venetian blinds instead of conventional curtains. Six R.C.A. radio speakers are located throughout the car for radio programs and train announcements.

Three types of color combinations are used. Six cars



The bulkhead at the end of one of the 48-passenger coaches

Each open section has a folding ladder to upper berth

feature blue seats, light coral ceilings, and light gray walls with the portion below the windows in gray-blue; under the seats and in the aisle there is blue Marbelle flooring with inlays of blue and gray in the aisle strip. Six more cars have Roseberry (red) seats, gray ceilings, green walls and beige coral colors below the windows. Under the seats and in the aisle the flooring is cream Marbelle with white and burgundy inlays. The last six cars have green seats, ceilings of light green, walls of dark green, and gray-green colors below the windows. The flooring is beige Marbelle with white and burgundy colored inlays in the aisle.

Typical of the interior arrangement and decorative treatment specified for the new G. N. sleepers, are those used in the two-compartment, five-bedroom, six-roomette cars.

Sleeping Cars

These cars feature green carpeting and rust colored window shades with aluminum backing. Seats are green or rust-colored in roomettes and bedrooms *A*, *B* and *E*. Bedrooms have ivory cream ceilings with walls of medium tan or medium apricot. Roomettes have ivory cream ceilings with medium blue walls.

Rooms in these cars are arranged to give complete privacy. Four roomettes are placed at one end of the car and two at the other with the compartments and bedrooms located in the center. Both compartments can be connected with single bedrooms, furnishing excellent accommodations for family groups or business conferences.

Both compartments and bedrooms feature enclosed toilet and wash basin facilities, air-conditioning with individual temperature control, electrically cooled water, full-length mirror, wardrobe locker, folding arm rest, luggage rack and shoe locker.

Observation-Lounge Car

The upper portion and ceiling of the observation lounge built by Pullman-Standard for the "Western Star" is done in light blue with the lower part painted in red. Carpeting throughout the car is Mohawk blue plume. Bedroom seats are upholstered in red and the drawing room in blue.

Bedroom ceilings are finished in a light gray with walls of medium gray. The ceiling in the drawing room is light tan with medium gray walls.

The observation lounge accommodates 27 passengers. Furniture is a combination of deeply upholstered settees and chairs, with two tables seating four each set diag-

Partial List of Materials and Equipment on the New Great Northern Passenger Cars Built by Pullman-Standard

Low-alloy high-tensile steel	United States Steel Co., Pittsburgh
Trucks	General Steel Castings Corp., Granite City, Ill.
Wheels	Bethlehem Steel Co., Bethlehem, Pa. United States Steel Co., Pittsburgh
Axles	Standard Forgings Corp., Chicago United States Steel Co., Pittsburgh
Shock absorbers	Houde Engineering Div., Houdaille-Hershey Corp., Buffalo, N. Y.
Roller bearings and boxes	Timken Roller Bearing Co., Canton, Ohio
Couplers	National Malleable & Steel Castings Corp., Cleveland
Draft gears	Waugh Equipment Co., New York
Hand brake	National Brake Co., New York
Brakes, electro-pneumatic	New York Air Brake Co., New York
Wheel-slide control	American Brake Shoe Co., New York New York Air Brake Co., New York
Clasp brakes; side bearings and truck springs	American Steel Foundries, Chicago
Brake shoes	American Brake Shoe Co., New York
Center-plate wear ring	Manganese Steel Forge Co., Philadelphia
Center pins	W. H. Miner, Inc., Chicago
Rubber pads	Fabreeka Products Co., Boston United States Rubber Co., New York
Composition flooring	Tuco Products Corp., New York
Floor covering	Goodyear Tire & Rubber Co., Akron, Ohio
Sash glass:	
Inside	Pittsburgh Plate Glass Co., Pittsburgh
Outside	Libbey-Owens-Ford Glass Co., Toledo, Ohio
Upper berth Thermopane units	Libbey-Owens-Ford Glass Co., Toledo, Ohio
Wainscot panels	Masonite Corp., Chicago
Partitions and bulkheads	Haskelite Manufacturing Co., Grand Rapids, Mich.
Insulation	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Pipe covering	Johns-Manville, New York Gustin-Bacon Mfg. Co., Kansas City, Mo.
Diaphragms:	
Outer	B. F. Goodrich Co., Akron, Ohio
Center	Tuco Products Corp., New York
Vestibule curtain rollers	Morton Manufacturing Co., Chicago
Door closers	National Pneumatic Co., New York
Window sash and shades	Adams & Westlake Co., Elkhart, Ind.
Weatherstrip	Bridgeport Fabrics Co., Bridgeport, Conn.
Air conditioning	Frigidaire Div., General Motors Corp., Dayton, Ohio
Air filters	American Air Filter Co., Louisville, Ky.
Multivent panels	Pyle-National Co., Chicago
Exhaust fans	Safety Car Heating & Lighting Co., New York
Heat system, and valves	Vapor Heating Corp., Chicago
Steam connectors	Barco Manufacturing Co., Chicago Vapor Heating Corp., Chicago
Electric power supply diesel Enginator	Waukesha Motor Co., Waukesha, Wis.
Genemotor	Safety Car Heating & Lighting Co., New York
Generator drive (12 coaches)	Dana Corp., Spicer Mfg. Div., Toledo, Ohio
Exide batteries	Electric Storage Battery Co., Philadelphia, Pa.
Lighting fixtures	Luminator, Inc., Chicago Safety Car Heating & Lighting Co., New York
Coach seats	Coach & Car Equipment Co., Chicago
Vanity chairs	General Fireproofing Co., Youngstown, Ohio
Berth mattresses	United States Rubber Co., New York
Hoppers and washstands	Crane Co., Chicago
Water coolers	General Electric Co., Bloomfield, N. J. E. A. Lundy Co., New York Marquette Railway Supply Co., Chicago
Fire extinguishers	Pyrene Manufacturing Co., Newark, N. J.
Paint:	
Interior	Pittsburgh Plate Glass Co., Pittsburgh Sherwin-Williams Co., Cleveland
Exterior	E. I. du Pont de Nemours & Co., Wilmington, Del.

Partial List of Materials and Equipment on the New Great Northern Passenger Cars Built by the American Car & Foundry Co.

Truck parts; cast-steel buffers and draft-gear pockets	General Steel Castings Corp., Granite City, Ill.
Clasp brake equipment; truck springs and castings	American Steel Foundries, Chicago
Wheels	United States Steel Co., Pittsburgh
Wheel slide control; brake shoes	American Brake Shoe Co., New York
Axles	Standard Steel Forgings Corp., Chicago
Shock absorbers	Houdaille-Hershey Corp., Houde Engineering Div., Buffalo, N. Y.
Sound insulation	Fabreeka Products Co., Boston
Disc brakes	Budd Co., Philadelphia
Brake equipment	New York Air Brake Co., New York
Hand brakes	National Brake Co., New York
Draft gear	Waugh Equipment Co., New York
Journal boxes	Timken Roller Bearing Co., Canton, Ohio
Couplers	National Malleable & Steel Castings Co., Cleveland
Upper buffer mechanism	Standard Railway Equipment Mfg. Co., Hammond, Ind.
Side bearings	Railroad Products Co., Cincinnati
Locking center pins	W. H. Miner, Inc., Chicago
Bushings	Ex-Cell-O Corp., Detroit
Steel plates, bars and shapes	United States Steel Co., Pittsburgh
Floor plates	Inland Steel Co., Chicago
Trap door; rubber bumpers	O. M. Edwards Co., Syracuse, N. Y.
Step boxes; diaphragms; vestibule curtains	Morton Mfg. Co., Chicago
Bias cord diaphragm material	B. F. Goodrich Co., Akron, Ohio
Rubber flooring	Beck & Blatchford, Chicago
Insulation	Gustin-Bacon Mfg. Co., Kansas City, Mo. Union Asbestos & Rubber Co., Cicero, Ill.
Insulation, sheet packing, pipe covering, Thermotape	Johns-Manville, New York
Tucolith	Tuco Products Corp., New York
Sash	Adams & Westlake Co., Elkhart, Ind.
End door operators	National Pneumatic Co., New York
Plymetl panels	Haskelite Mfg. Corp., Grand Rapids, Mich.
Met-L-Wood doors	Met-L-Wood Corp., Chicago
Ceiling panels	Pyle-National Co., Chicago
Plate glass	Burroughs Glass Co., St. Louis
Plate glass; safety plate glass	Pittsburgh Plate Glass Co., Pittsburgh
Kitchen and bar-room equipment, including dishwasher and sanitizing sink	Angelo Colonna, Philadelphia
Propane gas-burning range, broiler and steam tables in dining car and coffee-shop-lounge car	Stearnes Co., Chicago
Gas toaster	Savory Equipment, Newark, N. J.
Refrigerator units in dining car and coffee-shop-lounge car	Frigidaire Div., General Motors Corp., Dayton, Ohio
Garbage disposal units	General Electric Co., Schenectady, N. Y.
Curtains	Adams & Westlake Co., Elkhart, Ind.
Venetian blinds	Ajax-Consolidated Co., Chicago
Coach seats	Coach & Car Equipment Co., Chicago
Chairs, settees, desks, magazine racks and tables; carpet and carpet binding; rubber mattresses	Beck & Blatchford, Chicago
Chairs, settees, dining chairs and tables	General Fireproofing Co., Youngstown, Ohio
Banquette seats	Heywood-Wakefield Co., Gardner, Mass.
Chair covering	Goodall Fabrics, Inc., New York
Steam connectors	Barco Mfg. Co., Chicago
Heating equipment, thermometers, smoke jacks, fuse testers	Vapor Heating Corp., Chicago
Air filters	American Air Filter Co., Louisville, Ky.
Anemostats	Anemostat Corp. of America, New York
Air-conditioning equipment	Frigidaire Div., General Motors Corp., Dayton, Ohio
Multivane fans	Westinghouse Electric Corp., Pittsburgh
Solderless wire terminal	Aircraft-Marine Products, Inc., Harrisburg, Pa.
Wire and cable	Okonite Co., Passaic, N. J.
Batteries	Gould-National Batteries, Inc., Trenton, N. J.
Light fixtures	Luminator, Inc., Chicago
Trainline receptacles, contact units, housings, etc.	Pyle-National Co., Chicago
Axle lighting equipment, motor alternators, light fixtures, lamp regulators, switchboards, condenser lens light fixture	Safety Car Heating & Lighting Co., New York
Enginators	Waukesha Motor Co., Waukesha, Wis.
Generator drive	Dana Corp., Spicer Mfg. Div., Toledo, Ohio
Electrical tape and Scotchlite	Minnesota Mining & Mfg. Co., St. Paul
Radio equipment	RCA Victor Div., Radio Corp. of America, Camden, N. J.
Water coolers	Henry Giessel Co., Chicago E. A. Lundy Co., New York
Cup dispensers	Dixie Cup Co., Easton, Pa. U. S. Envelope Co., Paper Cup Div., Worcester, Mass.
Hoppers	Duner Co., Chicago
Fire equipment	C-O-Two Fire Equipment Co., Newark, N. J. Pyrene Mfg. Co., Newark, N. J.
Paint, stain, lacquer	E. I. du Pont de Nemours & Co., Wilmington, Del.
Paint	Ohmlac Paint & Refining Co., Chicago
Enamel	Pittsburgh Plate Glass Co., Pittsburgh

onally in alcoves. Tables, writing desk, reading lamps and plenty of ash trays are supplied.

Bedrooms are essentially the same as those in the "Empire Builder" cars. The drawing room is spacious, with a longitudinal bed folding into one cross wall and a long transverse sofa convertible into an equally long bed (with an upper berth) along the other cross walls of the room. There is ample space for dressing and for access to the enclosed toilet.

Bed Disappears

For day travel the wall bed disappears; the upper is put away; and the third bed becomes a sofa. This leaves space for two movable lounge chairs. The chairs are of the folding type and at night are placed under the bed. There is a large wardrobe; storage space above the enclosed toilet for luggage, and a locker, accessible from the passageway. for shoes to be shined.

"Your Freight Claim Prevention departments of the A.A.R. and of the individual railroads have done an enormous amount of work on claim prevention, but whatever the cause, an $89 million claim bill for 1950 shows that something is still radically wrong." — Irving F. Lyons

Freight Claim Picture Grows Brighter

Freight claim officers get a progress report—tempered by some shipper "beefs"—at San Francisco meeting

When practically $89 million is taken out of railroad revenues to pay for loss and damage it is a matter of grave concern to every shipper, for in the final analysis it is he who must pay the bill, whatever the cause and whoever may be responsible."

The speaker—Irving F. Lyons, traffic director of the California Packing Corporation and past president of the National Industrial Traffic League. The location—San Francisco. The audience—members of the Freight Claim Division of the Association of American Railroads who were gathered at the St. Francis Hotel for the division's 60th annual business session on May 22-24.

Mr. Lyons' talk, in which he described "a shipper's dilemma," was but one of several highlights of the three-day meeting, which one veteran member described as "the most vigorous and enthusiastic" he had ever attended. Other highlights were the frank and penetrating analyses of claim "offenses" in the railroads' operating departments by J. W. Corbett and H. C. Munson, vice-presidents, respectively, of the Southern Pacific and the Western Pacific; the portrayal of the 1950 claims performance by Chairman H. V. Cooper; the spirited debate and the firmly worded and unanimously approved resolution which followed, recommended to A.A.R. Vice-President J. H. Aydelott that a section devoted to freight loss and damage prevention be established within the Freight Claim Division; the detailed report on "Carload damage—cause and correction" by the Milwaukee's C. R. Dougherty; the story of fruit and vegetable claims by the Western Weighing & Inspection Bureau's F. A. Piehl; and the story of the Missouri Pacific's employee training program by C. A. Naffziger, superintendent of stations and claim prevention for the M.P.

"Rough Handling—Major Trouble"

"The experience of the Western Pacific [said Mr. Munson] in common with many others through the use of impact recorders or registers has shown that a very large portion of our troubles lie in rough handling of cars. And further, that perhaps 90 per cent of all rough handling takes place in yards, both transportation and industrial. Switching, therefore, is one of the principal problems of the railroads that is common to them all.

"It is my personal opinion that the railroads can do much better in minimizing loss and damage—particularly rough handling—if they would but view this problem intelligently and handle it as forcefully as they do any other responsibility, such as on-time performance, yard costs, train load, safety, and so on. Why this problem is viewed less seriously by some operating officers is difficult to understand, particularly in view of the adverse effect it has on an operating man's performance figures—for which he is responsible.

"One great need for bettering this situation is improved communication between operating men and industrial traffic managers. As I have pointed out before, traffic managers are in a very good position to show switchmen, yard foremen, yardmasters, trainmasters and superintendents the actual results *in the cars themselves* brought about by rough handling. Railroad men are reasonable men and they will all respond if shown. If they are aware of the problems of the industrial traffic men, and the latter, in

Heber Smith, freight claim agent of the Southern Pacific, has been elected chairman of the division for the 1951-52 year. His vice-chairmen are Hobart H. Young, freight claim agent, Pennsylvania, and Aubine L. Batts, freight claim agent, Atlantic Coast Line. About 270 members from all portions of the U. S. and Canada attended the San Francisco meeting

turn, are aware of the problems of the railroad men, better results will be obtained and more will be accomplished than through the issuing of hundreds of circular letters.

"It is important, too, that the railroad give the men something to work with if they are to eliminate rough handling. I am referring, for one thing, to proper grade lines in yards so that it is physically possible, without riding every car to rest, to obtain reasonable coupling speeds. Physical communication—the use of radio, telephone, loudspeakers and so on—is important too. It affords a splendid opportunity, particularly in busy yards, for communication between the two ends of the yard, thereby avoiding "set-ups" that could cause serious accidents and that frequently do cause minor derailments and aggravating tie-ups and delays."

Corbett Lists Causes

In addition to preventing loss and damage to conserve freight revenues, Mr. Corbett said that, in the present state of world affairs, "we have a patriotic obligation to move freight fast and deliver it without loss and damage to prevent waste of scarce and valuable commodities and of manpower engaged in their production."

Taking the list of 16 causes under which claim payments are allocated, Mr. Corbett singled out some which "it is immediately apparent are costing much more than appears reasonable" and for which the railroad operating departments could effect a considerable reduction.

"The item 'Improper Refrigeration and Ventilation' runs close to $1 million annually. It represents carrier deficiencies, and certainly its correction rests solely in our hands. We must maintain an increasing effort to train employees concerned with the realization that the individual must be expected to see that proper refrigeration and ventilation service is maintained. We owe the owners of freight the service for which they pay, and there does not appear to be any good reason why, with positive supervision, we cannot insure more nearly perfect service in the comparatively simple operation of proper vent adjustment and prompt placing of cars under refrigeration at ice docks.

"The item 'Improper Handling in Trains, Yards and Stations' amounts to nearly $3 million annually. And I think we can agree that it does not include all the damage that might rightfully be charged to it.

"The problem of improper car handling is a composite of individual problems. By that I mean that the failure of one to properly perform his job can nullify all the good work of other employees on his division or railroad. In like manner, improper handling by one railroad on an interline car results in all other carriers involved sharing the blame, although their handling may have been perfect.

" 'Unlocated Damage' ordinarily approximates $60 million a year, and I need not mention that this is the most talked of item on the freight claim accounts, and one that must be given greater attention.

"It certainly includes some improper car handling and defective equipment and other faults that cannot be definitely charged against other items. It includes a great deal of damage that is undoubtedly due to inadequate containers and loading methods, and the railroads must often acknowledge liability in instances where it is a matter of opinion whether the damage was due to shipper fault or to a carrier fault.

"Unlocated damage will be reduced to the extent that carriers can improve cars and their handling and work with shippers for improved packaging and loading. It will require that we increase and improve the job on both origin and destination inspections of lading. It is a responsibility of division staff officers and very definitely a responsibility of an agent to know that loading performed in his territory conforms to recommended methods that have been formulated to lessen the damage hazards met in the course of transportation. It is necessary that prompt and thorough destination inspections be made so that we can definitely determine the cause of damage. If this is known, we can ordinarily effect corrections."

Claims Are Down

In his address to the division, retiring Chairman H. V. Cooper outlined the railroads' claim performance for 1950. "While conflicting factors," he said, "such as the general business decline which began in 1949 and continued until the outbreak of hostilities in Korea; falling prices in that period and rapidly rising prices since June 1950; changes in the carriers' rate structure and other elements make it difficult to appraise the progress made in preventing loss and damage, I am happy to report that all the yardsticks usually relied upon point to substantial gains."

Freight loss and damage claim payments by U. S., Canadian and Mexican roads as reported to the division for 1950 were $88,956,700 compared with $113,844,712 in 1949—a reduction of nearly $25 million, or almost 22 per cent. The number of claims filed with those roads in 1950 was 3,395,563, compared with 3,745,785 in 1949—down over 350,000, or 9.35 per cent. Paid claims carried in suspense accounts awaiting completion of investigation and interline distribution at the close of 1950 amounted to $12.7 million, compared to $15.0 million at the close of 1949—down $2.3 million, or 15.57 per cent.

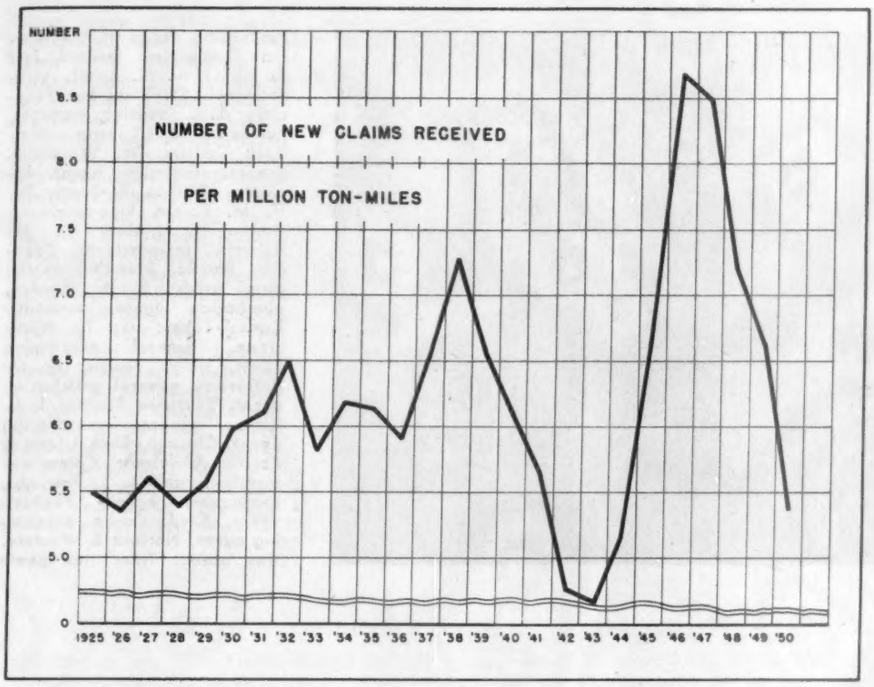
Claim payments by U. S. roads alone in 1950 were $84.8 million, as compared to $109.2 million in 1949—a reduction of $24.4 million, or 22 per cent. The ratio of payments to freight revenue for U. S. roads in 1950 was 1.08 per cent, compared to 1.55 per cent in 1949.

Mr. Cooper urged that the railroads turn to a more extensive use of bulkheads to cut damage to l.c.l. freight. One major road, he said, has reported a decline of 67 per cent in damage in such loads where bulkheads were used.

He also touched on the improved performance in settling claims quickly. "Claims settled within 30 days after receipt totaled 76 per cent, compared to 74 per cent in 1949," he said, "and only 9 per cent took longer than 90 days to dispose of, as compared to 12 per cent in 1949. This is an encouraging performance, but it still falls short of the record made in prewar years."

Mr. Lyons attributed the "dilemma" which he said some shippers were in to a "lack of coordination between the different departments of the railroads themselves." He said that:

"The shipper belongs to an advisory board, he attends the meetings of freight claim prevention committees and listens to the appeal of the N.I.T. League's claim prevention



A new basis for charting the ups and downs of claims received appears in this chart, in which the number of claims is counted per million freight ton-miles. Here, for the first time, one can see the actual claim performance of American railroads in terms of a fixed unit of freight traffic

committee. He joins the movement and makes every effort to follow, regardless of cost, the suggestions which are made to prevent loss and damage by properly preparing and loading his cars, sealing his cases, etc. In addition, some shippers have worked out a palletized loading with considerable success. It has reduced loss and damage claims materially, but has added to their transportation expense. Others have used bracing and strapping, separator sheets, adhesives and unitized loads with kraft paper—always at an added expense. For all this, the only reward a shipper could possibly obtain is to have his merchandise arrive safely, and maybe this would be reward enough if it actually accomplished the purpose. However, in a large number of instances these preventative methods employed by the shipper are discounted by rough handling in transit.

"Here is the most discouraging part of all. To add to the shipper's expense in preparing his shipments and loading his cars, he is urged to conserve rail equipment by loading his cars heavier. While shippers generally have responded to this appeal made by advisory boards and the railroads, and in some cases are compelled to do so by loading orders such as those that have been issued, or are now under consideration by the Defense Transportation Administration, it is recognized that the heavier loading will increase the risk of loss and damage.

"To add to the shipper's dilemma, he is faced with unsupported reports of claim inspectors for the different railroads stating that reported damage noted at the outturn of his shipment at destination was caused by improper loading. Personally, I have often wondered just how accurate some of these reports are, and how fully the cause of damage has been investigated.

"In other instances where inspection reports have attributed the damage to improper loading, investigation has revealed that the cars have been transferred in route by the railroads, and the effort of the shipper to have his merchandise arrive safely is completely discounted.

"Now you can imagine the state of mind of the shipper, when he has spent his good money and done everything possible within his power and knowledge to load cars properly, upon receiving reports of this kind, which, when he investigates himself, he finds were based on improper information or conclusions arrived at without proper investigation.

"I think you will find that generally shippers are receptive and want to cooperate in reducing the loss and damage waste because they have more at stake than the railroads, who merely pay for the loss and damage on which they accept responsibility. The shipper, on the other hand, has a tremendous investment in his label and in the good will of his customers, and he is not happy in merchandising his products through the medium of loss and damage claims. Damage is often concealed on arrival of cars, and the merchandise finds its way to the shelves of the retailer, doing an undetermined damage to the producer of the product without his knowledge.

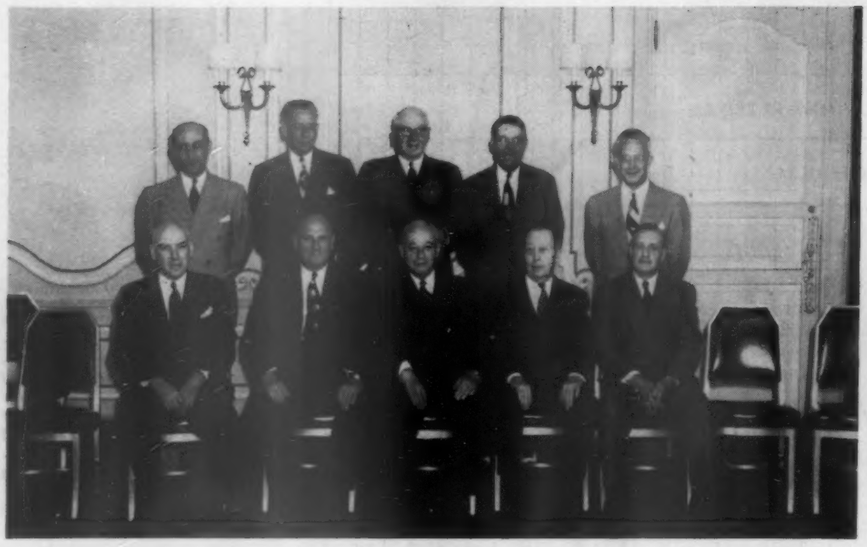
"A One Way Deal"

"The shipper, in going to the cost of preparing the car, receives no allowance whatever from the railroad. In the case of palletization he receives no consideration in the way of special freight rates or allowances for transportation of the pallet to or from the point of origin and destination. As a matter of fact, he is penalized in the way of extra freight costs for his effort to reduce loss and damage. In the case of the heavy loading he receives no benefit in the way of dual rates, while the carrier benefits in every instance.

"Again a penalty is incurred by increased loading and unloading plus the added risk of damage. The preparation of the car reduces loss and damage claims, as does the palletization of a load, and, in the case of the heavier loading, the carriers receive increased car revenue. In providing heavy cases exceeding classification specifications, the shipper is again penalized by increased freight charges on a weight basis.

"This all works like a one way deal, and that is why I say there should be closer coordination between the various railroad departments and a closer cooperation with the shipper through some incentive provided for him to employ all these methods that react to the monetary benefit of the carriers.

"How can the railroads continue to request or insist on shippers supplying all of the means to reduce loss and damage at their own expense and refuse to cooperate by providing allowances, or other inducements, to attain this end?"



Purchasing group of the General Committee. Seated, left to right: A. N. Laret, vice-president, St. Louis-San Francisco; A. L. Prentice, manager, purchases and stores, New York Central; W. W. Kelly, general purchasing agent, Atchison, Topeka & Santa Fe; H. M. Rainie, vice-president, Boston & Maine; B. W. Roberts, vice-president, Canadian Pacific. Standing, in the usual order: S. A. Hayden, purchasing agent, Missouri-Kansas-Texas; G. T. Wickstrom, general purchasing agent, Union Pacific; G. M. Betterton, general purchasing agent, Southern Pacific; J. C. Kirk, general purchasing agent, Chicago, Rock Island & Pacific (Advisory Committee member); and J. S. Fair, Jr., purchasing agent, Pennsylvania. Clyde Cocke, purchasing agent, Norfolk & Western, was absent from this photo

Conservation Theme of P. & S. Meeting

W. W. Kelly heads division for 1951-2, with V. N. Dawson as vice-chairman—DeButts limns p. & s. men's opportunity to help railroads overcome public "apathy" to their problems

Conservation of materials, manpower and time was the dominant note at the three-day annual meeting of the Purchases and Stores Division of the Association of American Railroads held in the Palmer House, Chicago, on June 4, 5, and 6. Materials shortages, rising costs and the effects of the rearmament program also were discussed at some length at this 25th annual meeting of the division.

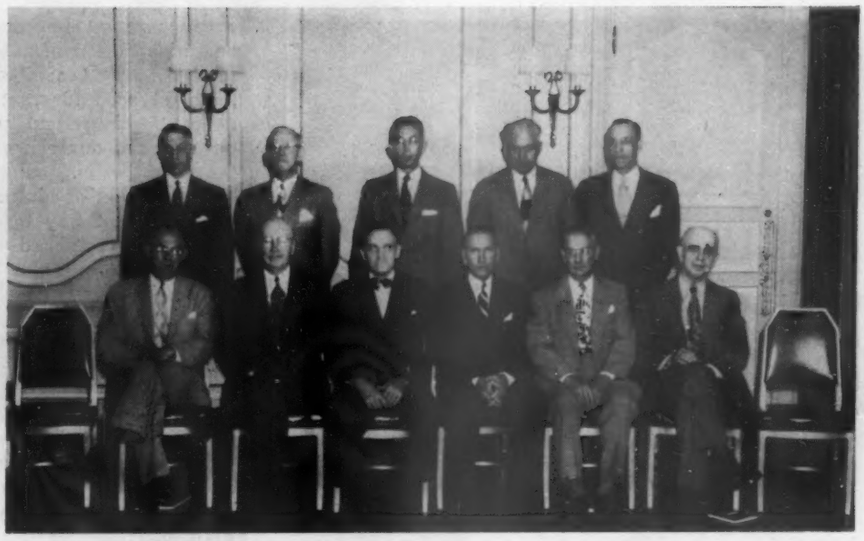
James H. Aydelott, vice-president of the A.A.R.'s Operations and Maintenance Department, addressed the meeting on June 4 immediately after it was convened by Division Chairman C. B. Neubauer, assistant to vice-president of the Southern.

"Transportation is a basic requirement of all industry supporting the mobilization effort," Mr. Aydelott said. "The ores and various other materials going into the manufacture of iron and steel, aluminum and other metals and chemicals, require railroad transportation. In response to the get-ready signal passed to us by the federal authorities last year the railroad industry was second only to the military establishment in launching its program. The response of the railroads last July to the suggestion that they should provide for a greater ownership in freight car equipment was extremely gratifying. The low level of earnings of railroads in 1949 had made it quite impossible for most of them to incur additional obligations for new equipment or to proceed normally with the repairing of cars and locomotives which had been withdrawn from service because of defective condition. The objective of the railroads as set last July with regard to unserviceable freight car equipment provided that bad orders would be reduced to no more than 5 per cent of the equipment owned. This objective was reached a month or two ago."

"Utmost Conservation"

The A.A.R. officer said the railroads' car and locomotive programs should be rated second only to the procurement program of the military establishment. While not challenging the need of the Armed Forces for steel and other materials claimed in furtherance of their program, he said he believed the situation justified a better break for the new car and locomotive program.

"In view of the benefits to be gained by the railroads thereby," he continued, "it may rightfully be expected that they will seek to attain the utmost in conservation of materials in all departments. Most of you will say that this has already become a habit and there is much to support a statement of that kind. However, I think all of you will agree that we have not reached the ultimate in conservation through standardization and simplification. Perhaps your committee in the division which deals with these subjects should be enlarged and given additional statistical help in view of the emergency conditions prevailing. . . . Much already has been done in this respect by the Mechanical Division and the decisions must be made largely by users of material rather than by purchasing officers. It is your responsibility, however, to keep the operating and maintenance



Stores group of the General Committee. Seated, left to right: N. V. Oldenbuttel, assistant general purchasing agent, Atlantic Coast Line; E. J. Leonard, general storekeeper, Chicago & North Western; C. B. Neubauer, assistant to vice-president, Southern (division chairman); G. E. Wilson, manager of stores, Reading; B. T. Adams, general storekeeper, Illinois Central; and C. H. Murrin, general storekeeper, Louisville & Nashville (Advisory Committee member). Rear row, in the usual order: V. N. Dawson, general storekeeper, Baltimore & Ohio; J. L. Quarles, manager of stores, Chesapeake & Ohio; C. E. Swanson, general storekeeper, Chicago, Burlington & Quincy; S. C. King, general storekeeper, Florida East Coast; and C. L. Wakeman, general storekeeper, Wabash

departments advised of anticipated as well as presently existing stringencies in the supply of materials normally purchased.

"In the third category of conservation activities, and one of the most important," Mr. Aydelott concluded, "is reclamation and rehabilitation of material and supplies shipped in as unfit for further use in the several departments. The scrap situation is critical enough to result in a general appeal being made to the public by the government for assistance in the reclamation of scrap wherever it may be found. We want to be careful not to order steel or other scarce materials delivered far in advance of actual requirements. It is appreciated that railroads building new equipment and progressing other programs must have a balanced inventory before work can be started. However, circumstances have in the past and probably will in the future result in programs in some measure being curtailed or deferred. In such circumstances you should advise us of any surplus of material thus created so that it can be made available to others participating in the program."

"Mountain of Public Apathy"

The American system of free enterprise is as important as armed might in maintaining what peace we now have, Harry A. DeButts, vice-president in charge of operation of the Southern, told the meeting. The standard of living achieved in the United States provides hope to the enslaved peoples of the world, he said, adding that Russia makes this fact evident by "jamming" American radio broadcasts and prohibiting within its sphere of influence all factual information about how free people really live in the United States.

"There is a mountain of public apathy to the current plight of the railroads which must be overcome," Mr. DeButts emphasized. "You gentlemen of the railway purchases and stores departments have a terrific job ahead of you in these coming months and maybe years. You must help the railroads prove their case by service to the public. It's a big and great opportunity. Our railroads must be kept strong. That means that on you rests a great part of the burden of making sure that our basic material needs are met on time and in the quantities needed to assure an uninterrupted schedule of maintenance work, or new construction, or daily operating needs. . . . I know of no more vital area in railroad management today than yours. Get us the materials with which to work and by our deeds we will be able

W. W. Kelly, left, general purchasing agent of the Santa Fe, succeeded Mr. Neubauer as chairman. V. N. Dawson, right, general storekeeper of the B. & O., has been elected vice-chairman

Harry A. DeButts, vice-president in charge of operation of the Southern, told the meeting, "I know of no more vital area in railroad management today than yours"

T. S. EDGELL (left)—Subject 1: Purchasing & Stores Dept. Manual—Recommended Rules and Practices; J. W. COCKRILL (right)—Subject 2: Standard Material Classification

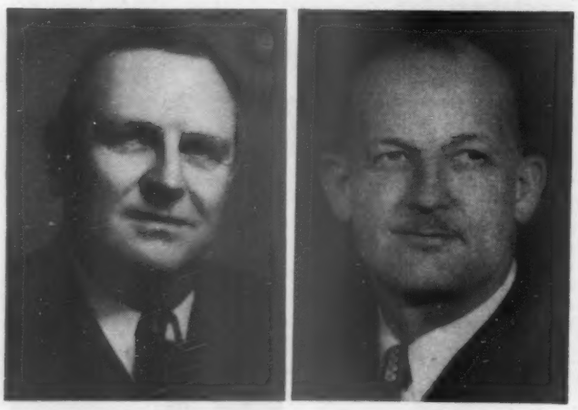
to overcome the public apathy of which I spoke. We will prove our case."

Mr. Neubauer, the third speaker during the morning session of the opening day of the meeting, briefly surveyed purchases and stores work in the past year. Activity in that field seemed to move at an increasingly rapid tempo as the year went on, he said. But, he added, the cooperative nature of the railroad industry eliminated many difficulties which might, and in some cases did, stem from the addition of a strong national defense program to an economy already operating at capacity.

"Cooperation means more, and is more practically applied, in the railroad industry than in any industry I know," the division chairman continued. "It is the essence which makes the railroad industry tick. Applied to our own Purchases and Stores work it might also be termed reasonableness. Reasonableness of thought, action, appraisal, demand and inventory. We are all practical railroad men. We know pretty much how, and of what, things are made.

Continued Teamwork Needed

"We stand on the threshold of adoption of another new plan — involving material — a plan which, we might remember, does not produce, but only allots and distributes. Given a specified quantity of material, we can readily see the importance of what we might call cooperative reasonableness if that material is to be used in the most effective way. There is no question about the vital need for that material. There is no question about the important part that material plays in the operation of our railroads. There is no question about the industry and effort put forth by Purchases and Stores men in obtaining that material for the railroads. The very best way to overcome whatever uncertainties exist in the controlled materials plan, or any other plan, and the very best way to capitalize to the fullest extent on the industry and effort of P. & S. men in getting materials to the railroads, is to continue the excellent brand of teamwork shown in the past year."



T. P. LYNCH (left)—Subject 5: Forest Products; A. V. SORENSON (right)—Subject 8: Shop Manufacturing

James K. Knudson, member of the Interstate Commerce Commission and administrator of the Defense Transport Administration, addressed the meeting during the morning session on June 5.

Mr. Knudson, in commenting upon the slash in steel allocations for railroad equipment building scheduled for the third quarter under the new Controlled Materials Plan, said:

"The D.T.A.'s appeal from the cutback was pressed vigorously, and I believe, successfully. My latest information is that locomotives at the rate of 275 per month for the quarter will be provided for and freight cars at the stated rate of about 9,500 per month. This is insufficient, but it is at least a recognition of the continued importance of this problem."

Praises Railroad Men

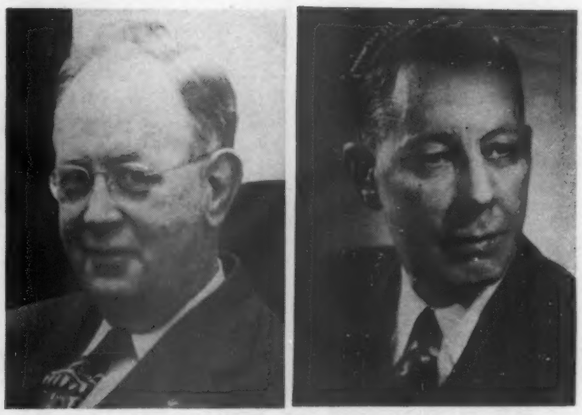
"Whenever I speak to a group of railroad men," he also said, "I feel almost as though I am talking to members of our armed forces, of such transcending importance to defense and liberty is the industry which you gentlemen represent. And that's not disparaging for an instant the specific importance of other mediums of American transport. Each and every one has a demonstrated value, an irreplaceable role to play in the nation's defense activities. But when all is considered, the railroads, in point of extensive service and volume hauled, remain utterly unapproached in doing wartime transportation jobs.

"Down there at the Interstate Commerce Commission those who served with the Office of Defense Transportation during the last war and are now concerned with the D.T.A., remember the unstinted effort of many railroad executives who worked with O.D.T. They came willingly. They came, in some cases, at great personal sacrifice. They headed up our various operating departments. They rendered outstanding war service. . . . It's a comfort to know that in this emergency your government, in its efforts to prosecute the Korean campaign and arm the nation against the further spread of war, can be assured of the full, voluntary cooperation and assistance of the entire railway industry. We know we are sure of that."

Mr. Knudson pointed out that Russia, like the United States, realizes her peacetime and wartime dependence upon her railway system. The Russians, he said, have even longer distances to cover by rail than we have, but their approximately 60,000 miles of main-line railroad compares very unfavorably with our own more than 200,000 miles of main-line track. In the present Korean conflict, he said, the 6,000-mile Trans-Siberian Railway is of vital concern, extending as it does from Moscow to the Pacific Ocean. Over this railroad, he went on, move supplies for China and the Communist armies fighting United Nations forces in Korea.

While the Trans-Siberian is a modern railroad in

F. F. FORBES (left)—Subject 3: Scrap, Handling and Preparation—Classification and Sale; F. J. STEINBERGER (right)—Subject 3A: General Reclamation



W. S. RIACH (left)—Subject 12: Purchasing Department—Organization and Procedure; C. C. WOOTTEN (right)—Subject 13: Stationery and Printing

every respect, it can haul only 40,000 gross tons each day in one direction. This line must carry the complete Russian traffic movement to the Far Eastern front, the speaker said, and although it can deliver a million tons a month — enough to equip 15 armored divisions, or 30 ordinary divisions — a single one of our western roads, in light of its wartime performance in 1945, could deliver twice that amount.

"Since the end of the last war the railroads have been vigorously at work stepping up their service in many ways — ways which will prove of enormous value in this crisis," Mr. Knudson added. "Besides adding stronger and larger freight cars and replacing steam with diesel motive power, many roads have been improving tracks, shortening circuitous routes, building better yard and terminal facilities, and installing up-to-the-minute methods and services. To cite a single fine example of such improvements, the Pennsylvania recently completed a $9,000,000 job on its line just west of Steubenville, Ohio. In the process the Pennsy eliminated four tunnels, enlarged and modernized one more tunnel and made it unnecessary for the new big freight cars and oversize open-top loads to be detoured around the tunnel section.

"Now that taking up of slack by the Pennsylvania can be translated into actual savings in terms of car-days. In fact, *Railway Age* has already done the translating. By conservative estimates it is shown that the savings from this improvement will be 168,000 car-days a year."

To "Take Up Slack"

Among recommendations he made by which Purchases and Stores men could "take up slack" were: (1) Close supervision of routing company materials so that the fastest and least expensive, in the matter of car-days, shall always be specified; and (2) elimination of extravagances in use of cars loaded with company materials. This last, Mr. Knudson said, was one of the points of good conduct urged upon railroads by the D.T.A. last January. "We have urged shippers," he continued, "to unload cars on Saturdays and Sundays and we have the right to expect nothing less from the railroads. The processes may be costly in the matter of overtime payments to work forces, but we are persuaded that the benefits to the national well-being more than compensate."

"To you Purchases and Stores men there is probably nothing new I can say that will make you more fully aware of your responsibility than you already are," Mr. Knudson said. Adding his own emphasis to the conservation theme at the convention, he concluded by saying: "Trained railroad men in four of this country's wars have patriotically demonstrated that awareness. Still I can underline and emphasize something you already know. And that is this: Just as every man in this time of crisis must do his duty-plus, so every piece of equipment and every item of material must do the service for which it was intended and more than that normal service. To you, therefore, that means conserving and caring for every piece of such material and equipment to an extent not necessary in normal times. And shortcuts and new procedures that you can develop to that end help just that much. The present scarcity of raw materials will become more pronounced."

Reclamation

Mr. Knudson's words on reclamation found sympathetic listeners among the P. & S. men. Report after report entered into the subject. Conservation even crept into the discussion of the committee on "Simplification and Standardization of Stores Stock." F. J. Steinberger, assistant general purchasing agent of the Atchison, Topeka & Santa Fe, said that there were too many hot boxes and burnt off journals resulting from faulty journal packing. In reclaiming this material, Mr. Steinberger said, the short threads were not being removed, and this was helping to cause the trouble. Also, he went on, some roads were reclaiming the waste from sock filters and using it for journal packing, with bad results. L. S. Crane, engineer of tests of the Southern, said this practice was o. k. provided the shorter threads were removed by carding and provided the waste had not lost all its life by being burnt in the reclaiming process. Mr. Crane also said that at its June meeting the Mechanical Division would try to set up a "better" specification for journal box packing.

C. C. Wootten, stationer of the Nashville, Chattanooga & St. Louis, reported for the committee on stationery and printing, of which he was chairman, that expenditures for stationery and printing by Class I railroads had been $28,418,710 in 1926 and $28,777,000 in 1950. This relatively small increase despite the fact that since 1926 advertising and rental on accounting machines have been added to this account, was attributed in the report largely to "constant research and vigilance in the procurement, handling and final use of the material."

Mr. Wootten's committee also got into the subject of conservation, recommending the use of "re-use" enve-

S. L. BOUQUE (left)—Subject 15: Storage and Material Handling Facilities—Capacity Loading and Prompt Handling of Company Material Cars; G. H. FLAGG (right)—Subject 16: Simplification and Standardization of Stores Stock

lopes, the reversing of file folders for further use, the elimination of transmittal letters where possible, and the use of half-size letter paper.

The committee report also said that "better production and greater efficiency have been made by the use of electric typewriters for such operations as preparation of waybills, freight bills, purchase orders, vouchers, etc.; also special statements requiring a large number of copies. . . . It has been found advantageous to use this type of equipment in pools where a large volume of standardized writing, such as letters, etc., is produced, resulting in increased production because of decrease of fatigue on the part of the operator."

It was emphasized in the report that circular letters be issued "to all offices to impress on every employee the necessity for the careful use and conservation of all stationery and printing; particularly paper, printed forms, and items made of metal, rubber, etc."

In calling this Committee, for the report of the General Reclamation Division, Chairman Neubauer termed its docket one of the most important of all on the agenda, under present circumstances. F. J. Steinberger, chairman of the committee and assistant general purchasing agent of the Atchison, Topeka & Santa Fe, explained that the National Production Authority has asked the railroads, as well as other industries, to do all the reclamation work possible in order to conserve materials.

J. B. HOBBS (left)—Subject 18: Terminal Railway Purchasing and Storekeeping; E. H. OTTO (right)—Subject 29: Merchandising Surplus Material

He also noted that the Signal Section of the A.A.R. was setting up a new committee to study possible sources for savings in the repair and reclamation of signal material.

The committee's report had mentioned that by recharging dry cell batteries one railroad had cut its purchases of them by 85 per cent. Several members of the division, speaking from the floor, questioned the economy of this measure. C. E. Swanson, general storekeeper of the Burlington lines, said that his road had been recharging dry cell batteries for about 12 years, and that this added about 50 per cent to the life of the batteries. Mr. Swanson said that instead of letting batteries go dead before collecting for charging, the Burlington picked them up each evening as the night shift went off, and recharged them locally, so that they were available for use by the night crews the next night. That way, he concluded, batteries were not played out right at the start and the recharging wasted.

The report of the Division's Committee on Scrap, Handling and Preparation, Classification and Sale was presented by its chairman, F. F. Forbes, supervisor, scrap and reclamation of the Erie. Mr. Forbes said railroads are carrying on an accelerated campaign to collect and turn back scrap metal to the steel industry to meet the urgent need for this type of material. "Railroads," he went on, "have been one of the first industries to recognize the importance of scrap and its proper preparation and classification, and are contributing in many ways to the national preparedness program by expediting the movement of scrap to mills." To step up preparation of scrap metal and help offset some of the increased labor costs for doing the work, railroads last year improved many of their scrap-handling facilities, Mr. Forbes pointed out. Steam locomotive cranes were replaced by diesel-operated cranes, steam-driven generators for operating magnets by gasoline-operated generators, aboveground oxygen and acetylene lines were installed, and runways and roads were improved to increase accessibility to all areas used in scrap handling.

Diesel Parts

A. L. Prentice, manager, Purchases and Stores of the New York Central system, and chairman of the Emergency Advisory Committee of the Special Purchasing Committee, reported that railroads were asking the Office of Price Stabilization for a $2 per ton differential over dealers' prices for all scrap except railroad heavy melting steel, on which this differential already applies. The premium is asked for the railroads because they deliver the scrap.

Other committee reports elicited considerable interest and discussion. For example, the committee on diesel parts, in addition to its report, provided a series of "debates" between various members of the committee, on such subjects as the usefulness of the locomotive builders' schools for training of purchasing and stores department personnel; time cycle vs. the blanket order purchase of diesel parts; the advisability of identifying parts (as to actual manufacturer) supplied by the builders; standard specifications for diesel lubricating oils; and the adoption of diesel parts records supplied by a builder.

Although no decisions were made, there was discussion from the floor, and opinions expressed indicated: (a) though diesel builders' schools are valuable they need to be supplemented by railroad schools taught by builder-trained railroad men; (b) the stock record furnished by a builder has some advantages that are worth looking into; (c) the size location method of storing materials

has many desirable points (one road has found it saved 25 per cent in storage space in some classes of material by using this method); (d) it is best to be cautious about getting suppliers other than the locomotive builders to supply precision parts for engines; (e) the time cycle ordering of parts is preferable to the blanket order; and (f) it would save the railroads a lot of money if a standard specification for a diesel engine lubricant were developed.

Dr. Wilson P. Green, chairman of the Heat-Power Research Department of Armour Research Foundation, Illinois Institute of Technology, followed the diesel parts committee on the program. Dr. Green's subject was lubricating oils. He explained the molecular make-up of both paraffin and asphalt base oils, and the types of additives which the petroleum industry puts into the oils to reduce oxidation, corrosion and carbon formation. He also talked of antifoam agents and of viscosity index improvers, put into oils so that they will flow almost equally well in winter and in hot weather. The type of petroleum, method of refining and the types of additives in the oil, Dr. Green said, all contribute to the difficulty in mixing oils successfully or in providing a standard specification oil for diesels. While this, he concluded, would not help his listeners with their purchasing problems, he hoped the group would now better understand why locomotive builders were not so keen about giving approval to the mixing of additive oils.

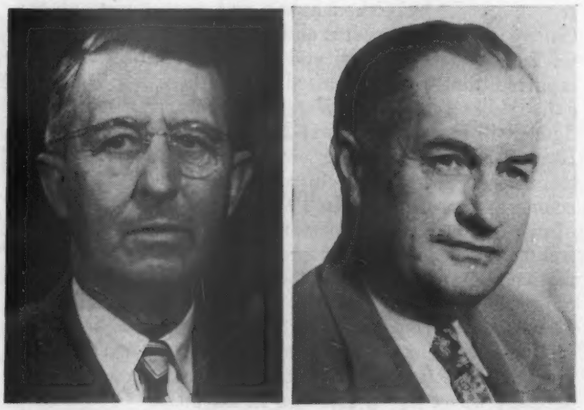
The Committee on Forest Products, which always provides an up-to-the-minute survey of the situation from its regional groups, revealed that although all is not well, the lumber situation is somewhat better than would have been expected. In the West the acute shortage of crossties still exists. In other areas the lumber situation was reported fair to good.

In the discussion following the report of the Committee on Terminal Railway Purchasing and Storekeeping, B. T. Adams, general storekeeper of the Illinois Central, noted that the committee's report had said that seven terminal companies were scrapping brake shoes with "life" still in them. Mr. Adams suggested that the trunk lines operating in those terminals should look into the situation to see that this waste did not go on.

The committee dealing with Storage and Materials Handling Facilities and Capacity Loading and Prompt Handling of Company Material Cars dwelt at some length in its report on the savings to be made by handling lumber received in unit loads that can be handled with fork trucks and straddle trucks. According to this report the cost of unloading unitized shipments of lumber from flat cars with fork trucks is just about half the cost of unloading lumber from box cars, piece by piece, forming it into unit loads and then moving it by machine to the storage area.

While some railroads are receiving rough lumber in unit loads on flat cars, none, it appeared, is receiving dressed lumber which has been unitized. Chairman Bouque said that since the Army and Navy were exerting pressure on the lumber industry to have the manufacturer ship unit loads to the services, it probably would not be long before there was action in this field which would aid the railroads in their campaign. B. T. Adams, general storekeeper of the Illinois Central, asked the purchasing agents for their cooperation in trying to get the lumber mills to ship unit loads to the carriers. It would, he said, save the railroads a lot of money.

The Committee on the Purchasing and Stores Department Manual, the chairman of which was T. S. Edgell, district storekeeper of the Gulf, Mobile & Ohio, reported that Eastern purchasing and stores group, through chair-



J.M. DAY (left)—Subject 34: Maintenance of Way and Construction Materials (Including Signal, Telephone and Telegraph)—Purchasing and Storekeeping; N. B. COGGINS (right)—Subject 37: Stores Department—Organization and Procedure

men of their study committees, had been invited by the Pennsylvania to attend a purchases and stores school meeting held at Philadelphia last December. "There were representatives from ten Eastern railroads present," the report said. "From their comments, after seeing a well organized school in action, it is apparent that much good can be derived from these sessions." The committee urged all members of the division to lend their support to similar programs.

Mr. Steinberger observed that "all of us" could stand some education as well as can the new men coming into p. & s. work. He mentioned that a very prominent electronics firm in Chicago now has its executives going to school one hour per night, 3 nights per week. M. E. Towner, retired general purchasing agent of the Western Maryland, and still an active member of the division, said that in these days of the 50 cent dollar, bankers and many other business men are finding it necessary to go to school, in order to keep up with latest developments in all phases of their work. He said that education would give the railroads more assurance that they would get value received when they spend their money.

Consumption of diesel fuel oil by railroads was 29.9 per cent higher in 1950 than in 1949, but use of heavy oil and coal in steam locomotives decreased by 10.3 per cent and 11.6 per cent, respectively, according to the

W. A. CLEM (left)—Subject 40: Loss and Damage Prevention—Salvage and Disposition; JOHN LEMBACH (right)—Subject 42: Diesel Locomotive Parts—Purchasing and Storekeeping

report by J. J. Bilek, lumber and fuel buyer of the Chicago & North Western, and chairman of the committee on Fuel—Coal, Fuel Oil and Diesel Fuel Oil. Mr. Bilek reported that railroads used more than 1,855,000,000 gal. of diesel fuel in 1950 and that it is estimated the figure will increase to about 2,300,000,000 gal. this year. He told the meeting the switch from steam to diesel locomotives is resulting in much greater efficiency and economy in use of oil. In 1950, he pointed out, 8.8 gal. of oil were required to perform 1,000 gross ton-miles of freight service with the average oil-burning steam locomotive, but with a diesel locomotive the same amount of work took only 1.6 gal. Because of the railroads' dieselization program, a further reduction in heavy-oil requirements for steam locomotives had been forecast but, Mr. Bilek explained, this downward trend had been partially offset by an increase in business.

The diesel fuel oil subgroup (chairman: E. R. Grinsted, buyer of the Chicago, Burlington & Quincy) of the committee reported that the capacity of the diesel fuel storage tanks of Class I railroads had increased from 119,228,000 gal. on January 1, 1949, to 160,112,000 gal. on January 1, 1950, and to 194,349,000 gal. on January 1, 1951. The committee's residual fuel oil subgroup (chairman: M. H. McGlynn, fuel agent of the Chicago, Rock Island & Pacific) gave figures on the capacity of the heavy fuel oil storage tanks of Class I railroads. On January 1, 1949, the capacity was 562,408,000 gal.; on the same date one year later, 520,393,000 gal.; and on January 1, 1951, it was 467,860,000 gal. Mr. McGlynn was absent because of illness and the group's report was made by E. H. Titgen, a member of the group and fuel agent of the Missouri-Kansas-Texas.

It was suggested, in the report of the diesel fuel oil subgroup, "that additional storage capacity be provided in order to permit prompt unloading and release of tank cars which are in short supply, and also to insure an adequate supply of fuel on hand in tanks at fueling stations at all times."

The report of the Committee on Shop Manufacturing was presented by its vice-chairman, E. C. Osmondson, inspector of stores of the Chicago, Burlington & Quincy. (The committee's chairman, A. V. Sorenson, division storekeeper of the Atchison, Topeka & Santa Fe, has been recalled to the armed forces.) The report said, in part: "Some railroads are rapidly replacing their steam power with diesel equipment and they should give serious consideration to the conversion of their shops into facilities for the manufacture and repair of diesel parts. Many items are being repaired at a definite saving in cost by those railroads which have so converted, making the material more readily available and reducing inventories. This would mean the purchase of some new and special equipment and tools, but over a period of time it would justify the investment."

The committee's report listed several diesel locomotive items currently being manufactured and repaired on some railroads at "a definite saving in cost and transportation." Mr. Osmondson asked members of the division to submit more items to the committee for inclusion in the next list.

On the last day of the meeting, G. T. Wickstrom, general purchasing agent of the Union Pacific, head of the annual essay contest committee, announced that first prize this year had gone to Malcolm McGregor, stenographer in the stores department of the Canadian National at Calder Shops, Edmonton, Alberta, for his paper on "Training of Personnel in Stores Organization." Second prize, for an essay on handling surplus and obsolete stock, went to Donald Mount, general foreman of stores, Southern Pacific, Oakland, Cal.

The meeting, largest in the history of the group with a registration of 573 railroad men and 313 suppliers, came to a close on Wednesday, with election of officers for the coming year. W. W. Kelly, general purchasing agent of the Atchison, Topeka & Santa Fe, succeeded C. B. Neubauer as chairman of the division, while V. N. Dawson, general storekeeper of the Baltimore & Ohio, was elected vice-chairman. New members elected to the general committee were E. A. Bromley, vice-president of the Canadian National, and W. H. Young, general storekeeper of the Seaboard Air Line. Reelected to succeed themselves were A. L. Prentice, manager of purchases and stores of the New York Central, H. M. Rainie, vice-president, Boston & Maine, Clyde Cocke, purchasing agent, Norfolk & Western, and C. E. Swanson, general storekeeper, Chicago, Burlington & Quincy.

During the meeting, C. W. F. Coffin, president of the Railway Supply Manufacturers' Association and vice-president of Franklin Railway Supply Company, announced that in 1953, if world business conditions permit, that organization will sponsor an exhibit of products in connection with the meeting in the United States of the Pan American Railway Congress.

THE S. S. "NEW GRAND HAVEN," said to be the newest and largest car ferry afloat, has just been delivered to the West Indies Fruit & Steamship Co., of West Palm Beach, Fla. Along with two former Florida East Coast car ferries, it is used in ferrying cars between Havana, Cuba, and West Palm Beach. It is 466 feet long, and carries 50 freight cars

First-Quarter Purchases Total $1,023,000,000

Includes $447,532,000 for new equipment, more than double the commitments for that purpose in 1950's first quarter

Total purchases by domestic railroads of all types of material during the first three months of 1951 amounted to $1,023,341,000, compared with $583,286,000 in the first quarter of 1950. Purchases of locomotives and cars during the 1951 first quarter called for commitments of $447,532,000, compared with $210,871,000 in the comparable period last year.

First-quarter purchases this year were higher than last year's first-quarter purchases in all other categories as well.

March purchases alone totaled $366,768,000, including equipment commitments of $161,100,000. Included in the March equipment commitments were 11,271 freight-train cars costing an estimated $66,500,000; 64 passenger-train cars costing an estimated $9,600,000; and 526 diesel-electric locomotive units costing about $85,000,000.

1951 RAILWAY PURCHASES*

	March (000)	Three Months Totals 1951 (000)	Three Months Totals 1950 (000)
Equipment**	$161,100	$447,532	$210,871
Rail	8,128	23,303	23,023
Crossties	7,522	19,401	12,107
Other Material	131,338	359,261	197,962
Total from Manufacturers	$308,088	$849,497	$443,963
Fuel	58,680	173,844	139,323
Grand Total	$366,768	$1,023,341	$583,286

*Subject to revision
**Amount placed on order

MARCH* PURCHASES OF MANUFACTURED GOODS (Excl. Equip. & Fuel)

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change	Year	Three Months Totals '51 And Other Years (000) Amt.	% Change
1945	$84,862	+ 73	Jan. '50	$73,861	+ 99	1945	$237,472	+ 69
1946	75,512	+ 95	Apr. '50	86,019	+ 71	1946	213,636	+ 88
1947	100,398	+ 46	July '50	91,782	+ 60	1947	287,108	+ 40
1948	117,300	+ 25	Oct. '50	112,265	+ 31	1948	319,241	+ 26
1949	114,187	+ 29	Jan. '51	132,739	+ 11	1949	329,488	+ 22
1950	87,400	+ 68	Feb. '51	122,238	+ 20	1950	233,092	+ 72
1951	146,988		Mar. '51	146,988		1951	401,965	

MARCH* PURCHASES OF RAIL

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change	Year	Three Months Totals '51 And Other Years (000) Amt.	% Change
1945	$6,531	+ 24	Jan. '50	$8,846	— 8	1945	$18,227	+ 28
1946	3,250	+150	Apr. '50	7,831	+ 4	1946	9,181	+154
1947	6,779	+ 20	July '50	9,884	— 18	1947	21,532	+ 8
1948	8,822	— 8	Oct. '50	8,798	— 8	1948	24,722	— 6
1949	10,328	— 21	Jan. '51	7,746	+ 5	1949	26,426	— 12
1950	7,704	+ 6	Feb. '51	7,429	+ 9	1950	23,023	+ 1
1951	8,128		Mar. '51	8,128		1951	23,303	

MARCH* PURCHASES OF CROSSTIES

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change	Year	Three Months Totals '51 and Other Years (000) Amt.	% Change
1945	$5,540	+ 36	Jan. '50	$3,618	+108	1945	$16,600	+ 18
1946	7,987	— 6	Apr. '50	5,003	+ 50	1946	19,931	— 3
1947	8,198	— 8	July '50	4,233	+ 78	1947	22,549	— 14
1948	5,868	+ 28	Oct. 50	5.054	+ 49	1948	16,134	+ 20
1949	7,951	— 5	Jan. '51	6,512	+ 16	1949	22,170	— 12
1950	4,717	+ 59	Feb. '51	5,367	+ 40	1950	12,107	+ 60
1951	7,522		Mar. '51	7,522		1951	19,401	

* Subject to revision.

MARCH* PURCHASES OF OTHER MATERIAL

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change	Year	Three Months Totals '51 And Other Years (000) Amt.	% Change
1945	$72,791	+ 80	Jan. '50	$61,397	+113	1945	$202,645	+ 77
1946	64,275	+104	Apr. '50	73,185	+ 79	1946	184,524	+ 95
1947	85,421	+ 54	July '50	77,665	+ 69	1947	243,027	+ 48
1948	102,610	+ 28	Oct. '50	98,413	+ 33	1948	278,385	+ 29
1949	95,908	+ 37	Jan. '51	118,481	+ 11	1949	280,892	+ 28
1950	74,979	+ 75	Feb. '51	109,442	+ 20	1950	197,962	+ 81
1951	131,338		Mar. '51	131,338		1951	359,261	

MARCH* PURCHASES OF FUEL

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change	Year	Three Months Totals '51 and Other Years (000) Amt.	% Change
1945	$48,538	+ 21	Jan. '50	$47,063	+ 25	1945	$139,713	+ 24
1946	53,881	+ 9	Apr. '50	51,687	+ 14	1946	154,538	+ 12
1947	58,539	——	July '50	42,971	+ 37	1947	173,792	——
1948	68,932	— 15	Oct. '50	58,435	——	1948	212,585	— 18
1949	58,007	+ 1	Jan. '51	62,465	— 6	1949	181,151	— 4
1950	57,166	+ 3	Feb. '51	52,699	+ 11	1950	139,323	+ 25
1951	58,680		Mar. '51	58,680		1951	173,844	

MARCH* TOTAL PURCHASES (Excl. Equip.)

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change	Year	Three Months Totals '51 and Other Years (000) Amt.	% Change
1945	$133,400	+ 54	Jan. '50	$120,924	+ 70	1945	$377,185	+ 53
1946	129,393	+ 59	Apr. '50	137,706	+ 49	1946	368,174	+ 56
1947	158,937	+ 29	July '50	134,753	+ 53	1947	460,900	+ 25
1948	186,232	+ 10	Oct. '50	170,700	+ 20	1948	531,826	+ 8
1949	172,194	+ 19	Jan. '51	195,204	+ 5	1949	510,639	+ 13
1950	144,566	+ 42	Feb. '51	174,937	+ 18	1950	372,415	+ 55
1951	205,668		Mar. '51	205,668		1951	575,809	

MARCH* INVENTORIES OF RAIL

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change
Mar. 1, 1945	$26,760	+ 64	Jan. 1, '50	$31,926	+ 37
1946	21,892	+100	Apr. 1, '50	41,482	+ 5
1947	31,217	+ 40	July 1, '50	37,542	+ 17
1948	37,341	+ 17	Oct. 1, '50	38,478	+ 14
1949	39,054	+ 12	Jan. 1, '51	38,278	+ 14
1950	40,594	+ 8	Feb. 1, '51	40,702	+ 7
1951	43,757		Mar. 1, '51	43,757	

MARCH* INVENTORIES OF SCRAP

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change
Mar. 1, 1945	$14,093	+ 41	Jan. 1, '50	$14,874	+ 34
1946	11,542	+ 72	Apr. 1, '50	14,147	+ 41
1947	17,017	+ 17	July 1, '50	13,045	+ 52
1948	16,409	+ 21	Oct. 1, '50	14,008	+ 42
1949	18,532	+ 7	Jan. 1, '51	18,260	+ 9
1950	12,922	+ 54	Feb. 1, '51	20,238	— 2
1951	19,887		Mar. 1, '51	19,887	

MARCH* INVENTORIES OF CROSSTIES

Year	March 51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change
Mar. 1, 1945	$78,090	+ 17	Jan. 1, '50	$101,393	— 10
1946	76,253	+ 20	Apr. 1, '50	106,269	— 14
1947	92,861	— 2	July 1, '50	90,779	+ 1
1948	98,843	— 8	Oct. 1, '50	82,609	+ 11
1949	98,833	— 8	Jan. 1, '51	83,804	+ 9
1950	105,934	— 14	Feb. 1, '51	88,036	+ 4
1951	91,400		Mar. 1, '51	91,400	

MARCH* INVENTORIES OF FUEL

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change
Mar. 1, 1945	$52,237	+ 21	Jan. 1, '50	$48,928	+ 29
1946	61,588	+ 3	Apr. 1, '50	42,492	+ 49
1947	52,233	+ 21	July 1, '50	49,112	+ 29
1948	65,071	— 3	Oct. 1, '50	50,875	+ 25
1949	88,647	— 29	Jan. 1, '51	58,612	+ 8
1950	39,369	+ 61	Feb. 1, '51	59,407	+ 7
1951	63,351		Mar. 1, '51	63,351	

MARCH* INVENTORIES OF OTHER MATERIAL

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change
Mar. 1, 1945	$439,922	+ 29	Jan. 1, '50	$528,400	+ 7
1946	435,455	+ 30	Apr. 1, '50	521,506	+ 9
1947	498,159	+ 14	July 1, '50	520,334	+ 9
1948	577,078	— 2	Oct. 1, '50	511,420	+ 11
1949	636,700	— 11	Jan. 1, '51	526,865	+ 8
1950	525,771	+ 8	Feb. 1, '51	549,054	+ 3
1951	567,592		Mar. 1, '51	567,592	

MARCH* TOTAL INVENTORIES †

Year	March '51 Compared to Other Marches (000) Amt.	% Change	Month	March '51 Compared to Other Months '50 and '51 (000) Amt.	% Change
Mar. 1, 1945	$611,102	+ 29	Jan. 1, '50	$725,521	+ 8
1946	606,730	+ 30	Apr. 1, '50	725,896	+ 8
1947	691,487	+ 14	July 1, '50	710,812	+ 11
1948	794,742	— 1	Oct. 1, '50	697,390	+ 13
1949	881,766	— 11	Jan. 1, '51	725,819	+ 8
1950	724,590	+ 8	Feb. 1, '51	757,437	+ 4
1951	785,987		Mar. 1, '51	785,987	

*** Subject to revision.**

† All total inventory figures taken from I.C.C. statement M-125 for the month indicated.

GENERAL NEWS

Net Income For 1951 Reaches $147 Million

Net railway operating income is $245.5 million

Class I railroads in the first four months of 1951 had an estimated net income, after interest and rentals, of $147,000,000, compared with $95,000,000 in the corresponding period of 1950, according to the Bureau of Railway Economics of the Association of American Railroads.

The four-months' net railway operating income, before interest and rentals, was $245,567,067, compared with $186,038,345.

Estimated results for April showed a net income of $45,000,000, compared with $40,000,000 in the same month last year. Net railway operating income for the 1951 month was $70,594,568, while in April 1950, it was $62,160,877.

In the 12 months ended with April 1951, the rate of return averaged 4.46 per cent, compared with 2.82 per cent for the 12 months ended with April 1950.

Gross in the first four months of 1951 amounted to $3,291,407,326, compared with $2,699,118,465 in the same period of 1950. Operating expenses amounted to $2,603,818,978, compared with $2,184,811,989.

Results by Districts

Twenty-three Class I roads failed to earn interest and rentals in the first four months of 1951, of which 10 were in the Eastern district, one in the Southern region and 12 in the Western district.

Class I roads in the Eastern district in the four months had an estimated net income of $37,000,000, compared with $34,000,000 in the same period of 1950. For the month of April their estimated net income was $13,000,000, compared with $22,000,000 in April 1950.

Those same roads in the four months had a net railway operating income of $88,768,819, compared with $82,994,310 in the same period of 1950. Their net railway operating income in April amounted to $27,372,526, compared with $33,769,012 in April, 1950.

Gross in the Eastern district in the four months of 1951 totaled $1,466,415,000, an increase of 20.6 per cent compared with the same period of 1950, while operating expenses totaled $1,201,796,137, an increase of 20.2 per cent.

CLASS I RAILROADS — UNITED STATES

	Month of April 1951	1950
Total operating revenues	$ 851,444,701	$ 713,820,097
Total operating expenses	668,850,295	562,625,236
Operating ratio—per cent	78.55	78.82
Taxes	92,801,386	74,201,684
Net railway operating income (Earnings before charges)	70,594,568	62,160,877
Net income, after charges (estimated)	45,000,000	40,000,000
Four Months Ended April 30		
Total operating revenues	3,291,407,326	2,699,118,465
Total operating expenses	2,603,818,978	2,184,811,989
Operating ratio—per cent	79.11	80.95
Taxes	375,073,455	273,060,070
Net railway operating income (Earnings before charges)	245,567,067	186,038,345
Net income, after charges (estimated)	147,000,000	95,000,000

Class I roads in the Southern region in the four months had an estimated net income of $34,000,000, compared with $29,000,000 in the same period of 1950. For the month of April they had an estimated net income of $8,000,000, compared with $8,000,000 in April 1950.

Those same roads in the four months had a net railway operating income of $51,205,493, compared with $43,695,826 in the same period of 1950. Their net railway operating income in April amounted to $11,195,216, compared with $11,325,397 in April 1950.

Gross in the Southern region in the four months totaled $486,573,514, an increase of 19.6 per cent compared with the same period of 1950, while operating expenses totaled $370,094,296 an increase of 18.6 per cent.

Class I roads in the Western district in the four months had an estimated net income of $76,000,000, compared with $32,000,000 in the same period of 1950. For the month of April they had an estimated net income of $24,000,000, compared with $10,000,000 in April 1950.

Those same roads in the four months had a net railway operating income of $105,592,755, compared with $59,348,209 in the same period of 1950. Their net railway operating income in April amounted to $32,026,826, compared with $17,066,468 in April, 1950.

Gross in the Western district in the four monthts totaled $1,338,418,812, an increase of 24.4 per cent compared with the same period of 1950, while operating expenses totaled $1,031,928,545, an increase of 18.2 per cent.

Direct-Deficit Trains Keep Passenger Loss Up

Their elimination might solve the problem, study indicates

Elimination of "direct deficit trains" might result in savings that would "substantially reduce or even eliminate" the railroads' passenger deficit, according to a study issued by the Department of Agriculture last week. The 1950 passenger deficit amounted to $508.5 million, while that of 1949 was at the all-time peak of $649.6 million.

"Direct-deficit trains" are those which are operated at an out-of-pocket loss, and the development of adequate data to identify such trains was listed in the study as "the first step"

In the Week's News . . .

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ONE OF THE MARYLAND & PENNSYLVANIA'S radio-equipped diesels switches the local freight at Delta, Pa. The 77-mile M. & P. has experimentally equipped two diesels, two cabooses, and its station at Delta with two-way radio equipment designed for use on taxicabs. While not intended for use on railroad rolling stock, the equipment has held up well enough to prove the operational advantages of radio, and as a result of the experiment, the nearby Washington & Old Dominion has equipped its entire 52-mile line with standard Bendix train radio. The management of the M. & P. plans to use regular train radio equipment when the system is further expanded or improved

in the solution of the deficit problem.

The study is entitled: "Factors Affecting Freight Rates on Agricultural Commodities—The Railroad Passenger Deficit." It was made in the department's Production and Marketing Administration, and it is the "first of a series of reports treating the financial position and revenue requirements of transportation agencies." It was prepared "principally" by Donald C. Leavens and Robert G. Rhodes under the general supervision of Charles B. Bowling, chief of the Traffic Management Division in P.&M.A.'s Transportation and Warehousing Branch.

The study reaches five "specific conclusions" which are set out as follows:

1. The financial condition of the railroads might be improved substantially by the elimination of passenger services that fail to return their directly assigned costs. This does not imply that entire segments of the railroad plant should be abandoned, but applies only to individual passenger trains operated at a deficit. The immediate minimum saving would be measured by the excess of directly assigned costs over revenues. In time, further savings would undoubtedly result from the reduction in common costs apportioned to the passenger services that may be occasioned by the discontinuance of deficit operations. In addition, substantial improvement in passenger earnings should result from more intensive utilization of facilities and equipment remaining in operation.

2. Sound economic principle supports the elimination of passenger trains operated at a direct deficit. Normally, private enterprise will not produce any service unless it yields revenues covering costs. The railroads, however, are able to continue deficit passenger services because the costs of passenger operations, in large part, are recovered from the users of freight services. In the short run, users of passenger services should at least pay the directly assigned expenses and in the long run should, in addition, pay those common costs which in time may be reduced if deficit passenger services were eliminated.

3. Freight shippers would benefit from the elimination of passenger trains operated at a direct deficit. This stems from the fact that under present rate structures, the passenger deficit is charged to freight operations. To the extent that the deficit may be reduced or eliminated, savings made possible thereby should accrue to the benefit of the shippers.

4. The exclusion of the direct deficit as a charge against freight operations is in accord with economic principle and appears to be permissible under section 15a. This approach to an admittedly difficult rate-making problem is based upon the distinction drawn between the total passenger deficit and the direct deficit. This distinction makes clear that consideration should be given to the fact that the deficit can be reduced or eliminated by discontinuing passenger trains operated at a direct loss. Deficits that can be eliminated are not proper charges to freight operations.

5. The first step in the solution of the serious financial problem resulting from the passenger deficit is the determination of which individual passenger trains operated at a direct loss. This is necessary in order to ascertain the magnitude of the direct deficit, and to provide a basis for the elimination of those passenger train services not earning their directly assigned costs. These data are not now available.

New Railway Legislation To Be Offered in Canada

Canadian Prime Minister Louis St. Laurent, in the House of Commons at Ottawa, has forecast legislation before the end of this year to implement the main recommendations of the Royal Commission on Transportation (*Railway Age*, March 26, page 42). Mr. St. Laurent did not specify the features of this legislative program but indicated it would involve many amendments to the existing Railway Act to clear the way for action on freight rates, for removal of certain regional "discriminations," and for "subsidizing" the two principal railways for carrying freight over the "barren" area in northwestern Ontario. This covers the mileage on the Canadian Pacific between Sudbury and Fort William and on the Canadian National between Capreol and Armstrong, about 500 miles in each case.

Mr. St. Laurent said in part:

"It is the intention of the government to recommend to Parliament implementation of the recommendations of the Royal Commission to the fullest practicable extent, and that will require many amendments to the present Railway Act. This amending bill will be a very important legislative proposal, and one which should receive the most careful consideration by Parliament because of its long term effect on Canadian economy. It is intended to recommend that the bill be referred to the standing committee on railways, canals, and telegraph lines, and that the committee provide an opportunity for representations as to how the proposed amendments might be expected to affect certain interests and localities. We feel that these proposed amendments should be before the public for study and discussion some reasonable time before they are finally dealt with by Parliament."

Hearing Set for July 2 In Southern Fare Case

The Interstate Commerce Commission will hold a public hearing July 2 at Atlanta, Ga., on the pending petition of Southern-territory railroads for authority to increase their one-way passenger fares by 10 per cent and make corresponding adjustments in other charges for passenger service.

The investigation involved has been docketed as No. 30822, and the hearing will be conducted by Commissioner Alldredge. (*Railway Age* of June 4, page 64.)

Senate Group Still Plans To Investigate New Haven

The recent death of Frederic C. Dumaine, Sr. (*Railway Age*, June 4, page 102), has not changed plans of a Senate subcommittee to investigate affairs on the New York, New Haven & Hartford, according to members of the subcommittee staff.

The subcommittee, headed by Senator McMahon, Democrat of Connecticut, will go ahead with the New Haven hearings after a month's delay caused by conflicting dates with other committee activities in the Senate. The hearings were originally scheduled to begin May 28.

Exact date for the opening of the hearings had not been announced as this issue went to press. The subcommittee on New England Power and Transportation Problems will conduct the investigation. Members of that

group, in addition to Senator McMahon, are Senators Tobey, Republican of New Hampshire, and Brewster, Republican of Maine. (*Railway Age*, May 14, page 100.)

"Geographical Equality" Proposed for the I.C.C.

Thirteen senators from states in Official territory have joined in sponsorin a bill "to provide geographical equality for appointments to the Interstate Commerce Commission." The bill, S.1574, was introduced by Senator O'Conor, Democrat of Maryland, for himself and 12 colleagues.

It would amend section 24 of the Interstate Commerce Act by adding a stipulation to the effect that no more than four of the commission's 11 members shall be appointed from the same "geographical area." The bill would divide the country into three "geographical areas," defined as follows: (1) All states (excluding Wisconsin) which lie wholly east of the Mississippi river and north of the line formed by the Ohio river and the southern boundaries of West Virginia and Maryland; (2) all states which lie wholly east of the Mississippi river and south of the line formed by the Ohio river and the southern boundaries of West Virginia and Maryland; (3) all states which lie wholly west of the Mississippi river, "including Minnesota, Wisconsin, and Louisiana."

Commissioners serving under appointments made prior to the bill's enactment date would not be required to be removed; but "all appointments and reappointments made after that date shall be valid only if made in accordance with the provisions of this act."

When he introduced the bill, Senator O'Conor inserted in the Congressional Record an explanatory statement which pointed up the fact that only one of the commission's present members is from Eastern territory. That is Commissioner Cross, who is from the "westernmost state (Illinois) in the Eastern territory," as Senator O'Conor put it.

"Six or seven" of the other commissioners are from the West, while three are from Southeastern territory, the senator also said. The line-up indicated to him that the East "is not adequately represented," in view of the fact that it has 47.25 per cent of the country's population and its railroads produce "about 24 per cent" of the national total of ton-miles.

The bill's co-sponsors are Senators Brewster of Maine, Bridges and Tobey of New Hampshire, Saltonstall of Massachusetts, Ives of New York, Bricker of Ohio, Duff and Martin of Pennsylvania, Williams of Delaware, Butler of Maryland, Republicans, and Green and Pastore of Rhode Island, Democrats.

Union Men Sue to Keep From Being Retired at 70

Four locomotive engineers and 14 conductors are seeking an injunction to prevent the Chicago & North Western from retiring them at the age of 70. The road has a contract with the Brotherhood of Locomotive Engineers —entered into at the request of the union—calling for compulsory retirement at 70. There is no such agreement with the Order of Railway Conductors. The men contend that the Railroad Retirement Act provides only for voluntary retirement.

Chicago Suburban Mail Now Moving by Truck

Trucks took over from the railroads on June 1 the handling of suburban mail between Chicago and 101 suburban post offices. The change affects towns within approximately 35 miles of downtown Chicago, and involves all classes of mail.

MCKENZIE TO SUCCEED GREEN ON COTTON BELT

Col. Frederick W. Green, president of the St. Louis Southwestern since August 1947, has announced his intention to retire from that position, effective July 1.

He will be succeeded by Harold J. McKenzie, who became executive vice-president of the Cotton Belt, with headquarters at St. Louis, last January 1.

The railroads involved report that the change-over will have but a minor effect on suburban train services. A few trains—principally those operated exclusively for accommodation of the mails—will be discontinued. Some other trains and services will be adjusted to compensate for traffic which is lost.

The U. S. Post Office Department reports that it expects to save approximately $290,000 a year as a result of the switch-over. However, railroad men experienced in the handling of mail believe that many trucking companies have submitted bids—and had them accepted—which will prove lower than the actual costs of performing the service.

They expect, therefore, that over a period of time the price the Post Office pays for trucking may gradually increase to a point near—or even in excess of—railroad costs.

Freight Car Loadings

Loadings of revenue freight in the week ended June 2, which included the Memorial Day holiday, totaled 744,644 cars, the Association of American Railroads announced on June 7. This was a decrease of 67,155 cars, or 8.3 per cent, compared with the previous week; an

OFFICERS AND COMMITTEE MEMBERS of the American Society of Traffic & Transportation met recently at Chicago to plan a two-day conference at Northwestern University for September 13 and 14 of this year. Left to right, standing—F. A. Doebber, F. R. White, A. M. Marshall, J. W. Harley, R. B. Hicks, A. B. Cozzens, A. H. Schwietert, and C. E. Finley; seated—Sarah O. Seamer, Edith C. Krogh, K. H. Jamieson, H. A. Hollopeter, W. F. Mullady, general chairman, C. H. Vayo, president of the society, Stanley Berge, R. J. Bayer, Mrs. W. O. Hansen, and E. L. Hart

increase of 34,748 cars, or 4.9 per cent, compared with the corresponding week last year; and an increase of 45,820 cars, or 6.6 per cent, compared with the equivalent 1949 week.

Loadings of revenue freight for the week ended May 26 totaled 811,799 cars; the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, May 26

District	1951	1950	1949
Eastern	140,066	142,817	138,673
Allegheny	170,585	162,984	164,590
Pocahontas ...	60,715	58,253	64,806
Southern	129,618	121,693	116,605
Northwestern .	133,220	121,184	128,049
Central Western	118,645	117,611	115,432
Southwestern .	58,950	56,384	56,669
Total Western Districts	310,815	295,179	300,150
Total All Roads	811,799	780,926	784,824
Commodities:			
Grain and grain products ...	42,282	40,043	49,462
Livestock	7,104	7,948	8,744
Coal	137,027	143,572	160,798
Coke	16,545	14,396	13,161
Forest products	50,050	45,797	40,904
Ore	86,720	70,383	79,037
Merchandise l.c.l.	76,117	85,392	93,178
Miscellaneous .	395,954	373,395	339,540
May 26	811,799	780,926	784,824
May 19	809,475	743,313	773,910
May 12	808,127	711,789	771,738
May 5	803,337	743,996	768,327
April 28	824,662	745,295	785,444
Cumulative total 21 weeks ..	15,578,638	13,979,446	15,133,628

In Canada.—Carloadings for the week ended May 26 totaled 79,979 cars, compared with 87,265 cars for the previous week and 72,758 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
May 26, 1951	79,979	33,844
May 27, 1950	72,758	32,499
Cumulative totals for Canada:		
May 26, 1951	1,623,029	757,838
May 27, 1950	1,473,314	638,087

Pullman Fares Increased By 15 Per Cent on June 1

A nationwide 15 per cent increase in Pullman Company fares became effective June 1. There was no suspension of the increases, although the Interstate Commerce Commission did receive objections from several groups, including the Department of the Army.

As noted in *Railway Age* of April 30, page 41, the commission had previously authorized the company to file short-form tariffs carrying the proposed 15 per cent boost. These tariffs, embodying the usual 30-days' notice, were filed with the commission April 27.

Supreme Court Actions

The Atlantic Coast Line and the Louisville & Nashville received setbacks in the U. S. Supreme Court last week when the court again ruled that railroads should go to state courts to seek relief from orders of a state regulatory commission.

The court's action was the same as in two recent cases involving the Southern. The issues were also the same, with both A.C.L. and L.&N. wanting to drop two passenger trains in Alabama and the Public Service Commission refusing permission.

In a brief *per curiam* decision the high court set aside a lower federal court decision and referred to the Southern cases. In those it had held that adequate state review of a state commission order was available, and intervention of a federal court was not necessary for protection of federal rights. (*Railway Age*, June 4, page 66.)

The present cases were *Alabama Public Service Commission v. A.C.L.* and *Alabama P.S.C. v. L.&N.* In each case the U. S. District Court in Alabama had made findings favorable to the roads.

TEE PEE WILLIE says...
"PATIENCE, BROTHER
TRAIN AT CROSSING MEANS WAMPUM IN YOUR POCKET!"
"Freight trains make plenty good business barometer. The more you see, the better. They mean more goods moving to market . . steady employment, plenty wampum in paycheck, good farm profits . . heap big prosperity.
"T.P.&W. tries to move trains across highway promptly—and during hours of little traffic. But when one does make you wait for a few minutes, please be patient—you'll be plenty pleased soon. It's a happy omen that when papoose needs a new pair of moccasins, she's gonna get 'em!"
(signed)
TEE PEE WILLIE
"Caution at crossings is heap plenty good medicine."
TOLEDO, PEORIA & WESTERN RAILROAD
TPW

TEE PEE WILLIE, the T.P. & W.'s winning little Indian, now figures large in the road's monthly goodwill advertisements placed in on-line newspapers. Here Tee Pee helps overcome irritation at grade crossing delays. Suggested by the road's New York traffic manager, A. J. Miller, Willie has been "doing such good work" in the road's national advertising that he is being introduced in its other advertising as well

Oral Argument in Rate Case Set for July 9

July 9 has been set by the Interstate Commerce Commission as the date on which it will begin hearing oral argument in the Ex Parte 175 freight-rate case. The argument will be held at the commission's Washington, D. C., headquarters, and briefs or memoranda in lieu of oral argument may be filed on or before the opening day.

The proceeding involves the railroads' proposal for a freight-rate increase of 15 per cent. This would be a permanent advance, supplanting the interim-relief increase averaging overall about 2.4 per cent, which was approved by the commission in its March 12 report in the case. The oral argument will come after the concluding series of hearings which is scheduled to open in Washington on June 25.

March Accidents

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics preliminary summary of steam railway accidents for March and this year's first three months. The compilation, which is subject to revision, follows:

Item	Month of March 1951	Month of March 1950	3 months ended with March 1951	3 months ended with March 1950
Number of train accidents*	1,013	847	2,989	2,257
Number of accidents resulting in casualties .	49	34	157	108
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	74	73	187	197
Injured	59	70	165	189
Passengers on trains:				
(a) In train accidents*				
Killed	3	..	85	30
Injured	15	19	764	289
(b) In train-service accidents				
Killed	1	1	2	3
Injured	128	149	375	491
Travelers not on trains:				
Killed	1	..	1	3
Injured	72	61	204	192
Employees on duty:				
Killed	34	28	102	79
Injured	1,955	1,629	6,153	4,799
All other non-trespassers:**				
Killed	162	135	460	415
Injured	548	522	1,770	1,534
Total—All classes of persons:				
Killed	275	237	837	727
Injured	2,777	2,450	9,431	7,494

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of $275 or more to railway property in 1950. Beginning January 1, 1951, this minimum was raised to $300. Only a minor part of the total accidents result in casualties to persons, as noted above.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:				
Killed	153	130	431	392
Injured	407	369	1,258	1,111

Moratorium Phase of B.R.T. Pact Excludes Union Shop

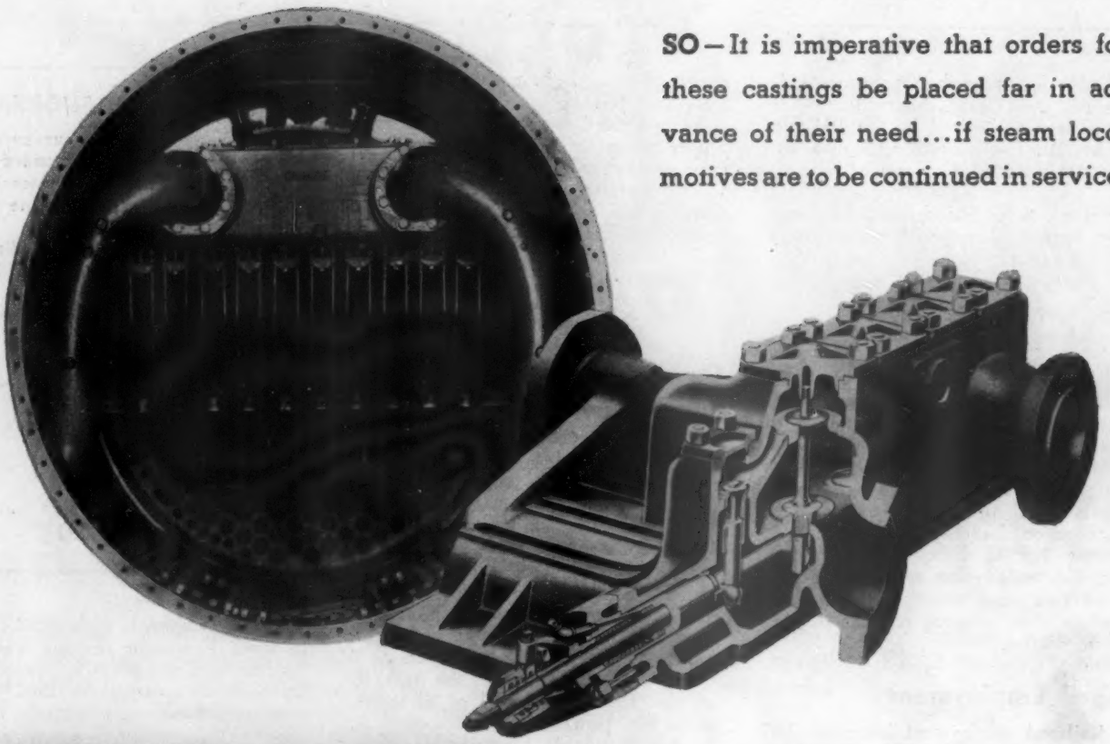
Requests for negotiation of union-shop agreements will be exempt from the three-year moratorium provisions of the May 25 agreement which settled the wage and rules dispute involving railroad operating employees who are members of the Brotherhood of Railroad Trainmen. This "understanding" of the parties was confirmed in one of the settlement documents—a letter written to B.R.T. President W. P. Kennedy by chairmen of the three regional carrier conference committees.

As noted in *Railway Age* of June 4, page 60, where terms of the settlement were outlined, the moratorium applies generally to proposals for further changes in wages and rules during a three-year period from October 1,

Look Ahead!

With shortage of foundry production for castings, such as superheater header and multiple-valve throttle castings—it is becoming next to impossible to make delivery promises because these castings are difficult to cast and machine. There is every indication that this trend will continue.

SO—It is imperative that orders for these castings be placed far in advance of their need...if steam locomotives are to be continued in service.



THE
SUPERHEATER CO., INC.
Division of
COMBUSTION ENGINEERING-SUPERHEATER, INC.
200 Madison Ave., NEW YORK 16
Bankers Building, CHICAGO 3
Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.
Representing AMERICAN THROTTLE COMPANY, INC.

Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Driers • Feedwater Heaters • Steam Generators • Oil Separators • American Throttles

SUPPLANTING THE LAST STEAM POWER of the Duluth, South Shore & Atlantic, these 1,600-hp. Baldwin-Lima-Hamilton diesels paused only for the photographer and for a brief inspection by members of the road's mechanical and operating departments before going to work. With their arrival, the South Shore became one of the newest Class I carriers to be operated entirely with diesel-electric motive power *(Railway Age,* **March 12, page 95)**

1950. As for union-shop agreements, it was not until last January that such pacts were authorized by the Railway Labor Act. The authorizing legislation, signed by President Truman January 10, also permits agreements providing for check-off of union dues. (*Railway Age,* January 8, page 54, and January 22, page 36.)

Sentner Succeeds Cole As N.P.A. Steel Chief

Richard F. Sentner has been appointed director of the National Production Authority's Iron and Steel Division. He succeeds Melvin W. Cole.

Mr. Sentner, who is on leave from his position as assistant executive vice-president of the United States Steel Corporation, had been deputy director of the N.P.A. division since March. Mr. Cole will return to the Bethlehem Steel Company, where his position is the assistant general managership of western sales.

April Employment

Railroad employment increased 1.07 per cent—from 1,272,557 to 1,286,195—from mid-March to mid-April, and the mid-April total was 7.96 per cent above that of April 1950, according to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

The index of employment, based on the 1935-1939 average as 100, was 128.1 for April compared with 127.9 for the previous month and 118.6 for April 1950.

April employment was equal to or above that of the previous month in all seven employee groups, with the increases ranging from 0.1 per cent for executives, officials and staff assistants, to 4.65 per cent for maintenance of way and structures employees. There was no percentage change in the number of train and engine service employees.

As compared with April 1950, employment increased in all groups. The increases ranged from 10.99 per cent for the maintenance of equipment and stores group to 2.13 per cent for the group embracing executives, officials and staff assistants. Maintenance of equipment and stores and train and engine service groups were up 10.41 per cent and 7.58 per cent, respectively.

Standards Association Honors Two Railroaders

Certificates of service, in recognition of work done in development of American standards, have been awarded by the American Standards Association to B. S. Voorhees, of New York, vice-president of the New York Central System, and to Neal D. Howard, of Chicago, secretary of the American Railway Engineering Association and of the Engineering Division of the Association of American Railroads.

Mr. Voorhees represents the A. A. R. on the A. S. A.'s board of directors, while Mr. Howard is a member of A. S. A.'s Standards Council. Mr. Howard was formerly engineering editor of *Railway Age* and editor of *Railway Engineering and Maintenance.*

Water Carriers' Freight Revenue Was Up in 1950

Last year's freight revenue of Class A and B water carriers was 21.5 per cent above that of 1949, but passenger revenue was off 15.1 per cent, according to data compiled from the carriers' quarterly reports to the Interstate Commerce Commission. The compilation, Statement No. Q-650, was prepared by the commission's Bureau of Transport Economics and Statistics.

It showed that 1950 freight revenue of reporting water lines totaled $247,238,086, compared with $203,430,319 in 1949. Passenger revenue was $11,720,089 and $13,805,079, respectively. By regional groups, the 1950 figures were as follows:

	Freight Revenue	Passenger Revenue
Atlantic and Gulf Coast	$44,637,659	$2,898,953
Great Lakes	27,258,096	3,566,718
Mississippi and tributaries	58,307,587	1,067,633
Pacific Coast	20,053,739	3,789,569
Intercoastal	96,981,005	397,216

Class A and B water carriers are those with annual operating revenues of $100,000 or more, the Class A group being those with annual revenues above $500,000 and the Class B group those with annual revenues from $100,000 to $500,000.

CAR SURPLUSES, SHORTAGES

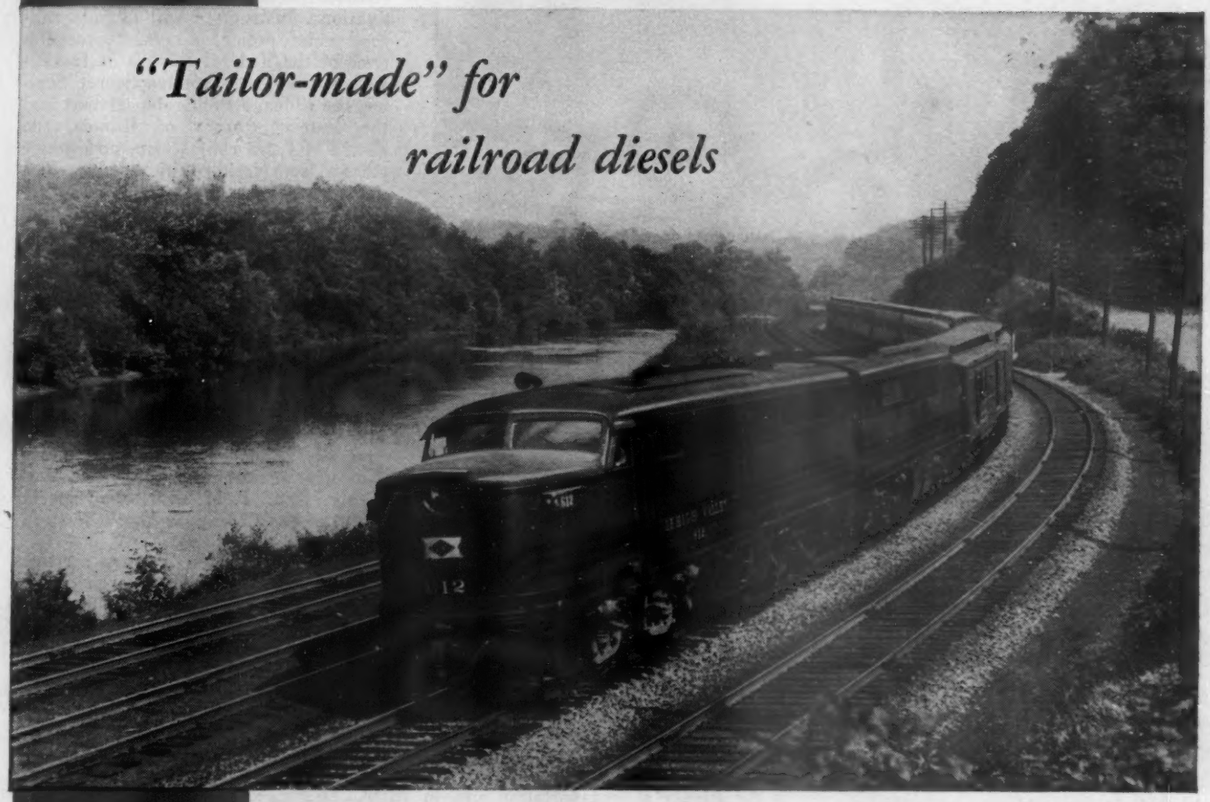
Average daily freight car surpluses and shortages for the week ended June 2 were announced by the Association of American Railroads on June 7 as follows:

	Surplus	Shortage
Plain Box	12,262	3,962
Auto Box	0	41
Total Box	12,262	4,002
Gondola	205	3,298
Hopper	0	888
Covered Hopper	0	88
Stock	1,309	52
Flat	0	863
Refrigerator	4,847	0
Other	170	18
Total	18,793	9,209

How N.P.A. Increased Car Program for Third Quarter

The increased third-quarter freight-car program which was announced June 5 by Administrator James K. Knudson of the Defense Transport Ad-

Esso Diesel Fuel



Esso Diesel Lubricating Oil

ESSO DIESEL FUEL has been specifically developed to meet the requirements of railroad diesels. Proved on the run in one of the most exacting tests ever conducted through over 300,000 miles of actual operations in a diesel engine. Specify ESSO for an economical, dependable diesel fuel.

ESSO DIESEL LUBRICATING OIL, a high-quality lube for real protection—Diol RD is another famous Esso "tailor-made" railroad diesel product. Developed through years of field testing and research by both engine designers and Esso scientists to meet the needs of diesels—Esso Diol RD helps assure top performance with dependable lubrication protection!

BACKED BY CONSTANT RESEARCH—continuing tests in the lab and on the road make sure that Esso Railroad Products keep pace with progress and latest developments in railroad diesels.

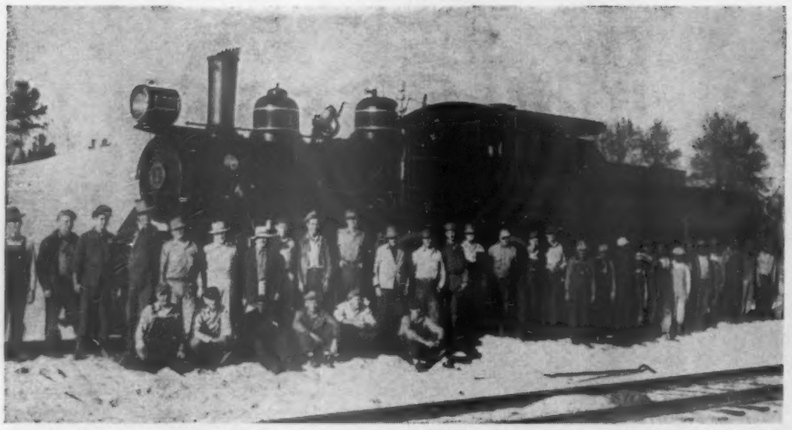
BACKED BY CONSTANT FOLLOW-UP—on-the-job check-ups by Esso Sales Engineers assure the dependable performance of Esso Railroad fuels and lubricants! Be sure to call on ESSO for any railroad fuel or lubricating problem.

The Sign of QUALITY — Esso — The Symbol of SERVICE

RAILROAD PRODUCTS

SOLD IN: Maine, N. H., Vt., Mass., R. I., Conn., N. Y., N. J., Penna., Del., Md., D. C., Va., W. Va., N. C., S. C., Tenn., Ark., La.

ESSO STANDARD OIL COMPANY — Boston, Mass. — New York, N. Y. — Elizabeth, N. J. — Philadelphia, Pa. — Baltimore, Md. — Richmond, Va. — Charleston, W. Va. — Charlotte, N. C. — Columbia, S. C. — Memphis, Tenn. — New Orleans, La.



EMPLOYEES OF A NEW RAILROAD POSE WITH THEIR *ONE SPOT*—Brand new, as railroads go, the Louisiana Eastern, constructed in 1946, operates one mile of first main track and five miles of sidings, from Shiloh, La. (on the Illinois Central), to Harrison Junction. It operates four steam locomotives. Number 1, here pictured, was purchased from the Red River & Gulf. The L.E. has its headquarters at Baton Rouge; is owned by the Gulf Sand & Gravel Corp.; and is a common carrier

ministration was made possible by adjustments in the steel-allocation plan, the allotment of a "little more" steel, and the extension of "direct-assistance" arrangements to the procurement of castings. This was explained June 6 at the Washington, D. C., headquarters of the National Production Authority, where it was also revealed that an increased allotment of steel would be mainly responsible for the augmented third-quarter locomotive program.

The latter was also covered by the Knudson announcement, which was embodied in an address made by the D.T.A. administrator at Chicago before the annual meeting of the Purchases and Stores Division, Association of American Railroads. As to the third-quarter car program, Mr. Knudson said he understood it had been stepped up to a 9,500-car monthly basis. Previous information had indicated that the third-quarter allotments of steel and other materials might cut the program to a monthly basis as low as 7,600 cars.

The "little more steel" involved in the larger program was put at 11,000 tons by N.P.A. sources. That would bring the total third-quarter allotment for new-car construction to 683,000 tons. The "adjustments" in the program include some rearrangements of the previously-determined proportions of the different types of steel involved.

As to the third-quarter locomotive program, Mr. Knudson said he understood it had been put on the basis of 275 units per month. This was confirmed at N.P.A., the increase above the original third-quarter program of 250 units per month having been effected mainly by raising the allotment of steel, as noted above. N.P.A.'s recent announcement with respect to the original third-quarter program (*Railway Age* of May 28, page 54) was in error in stating that that program called for the construction of 250 "locomotives" in the quarter. It should have said 250 locomotive units per month.

Norris Receives Two Honorary Degrees

The University of Tennessee, on June 4, gave the honorary degree of Doctor of Science to Ernest E. Norris, president of the Southern System, for "having rendered distinguished service to the science of transportation and, in the development of a great transportation system, contributed to the economic and social development of Tennessee, the South and the nation."

Mr. Norris also received an honorary degree of Doctor of Laws from Davidson College on May 28.

ORGANIZATIONS

Railroad Police Attending Special Academy

The first National Railroad Police Academy, conducted under auspices of the Protective Section of the Association of American Railroads, is currently under way at the Congress Hotel in Chicago, running from June 4 through June 15. Its purpose is to make available to all railroads the opportunity to have experienced police representatives attend a central training school and then to be in position to assist in conducting or establishing similar courses on their respective roads.

Among subjects included in the curriculum of the academy are scientific crime detection, cooperation with other law enforcement agencies, investigation of freight claims, safety procedures, use of firearms, fingerprinting, patroling of railroad facilities, police activity in connection with internal security, railroad police participation in civilian defense, and conduct of investigations. Instructors will include railroad chief police officers, representatives of the Federal Bureau of Investigation, the United States Secret Service, the Chicago Police department and the state's attorney of Illinois, the sheriff of Cook county, Ill., and police officers from various cities.

Railroad police officers who will address the opening of the school and act as chairmen of the sessions are W. G. Fetzner, chief special agent of the Chicago, Burlington & Quincy; H. L. Denton, general superintendent of police of the Baltimore & Ohio; J. W. Shumaker, superintendent of police, Western region, of the Pennsylvania; M. F. Morrissey, chief special agent of the Pullman Company; D. L. Wood, chief special agent of the Illinois Central; J. T. Husum, chief of police, Chicago territory, of the New York Central; and F. M. Ellis, chief special agent of the Chicago & North Western.

The **Ohio Valley Transportation Advisory Board** will meet at Indianapolis on June 20, in the Hotel Lincoln. Special committee meetings will be held at the same location beginning at 9 a.m. June 19. H. Frederick Willkie, president of Kingan & Co., Indianapolis, will be guest speaker at a June 20 luncheon sponsored jointly by the board, the **Indiana State Chamber of Commerce,** the **Indianapolis Traffic Club,** the **Indianapolis Board of Trade** and the **Indianapolis Chamber of Commerce.**

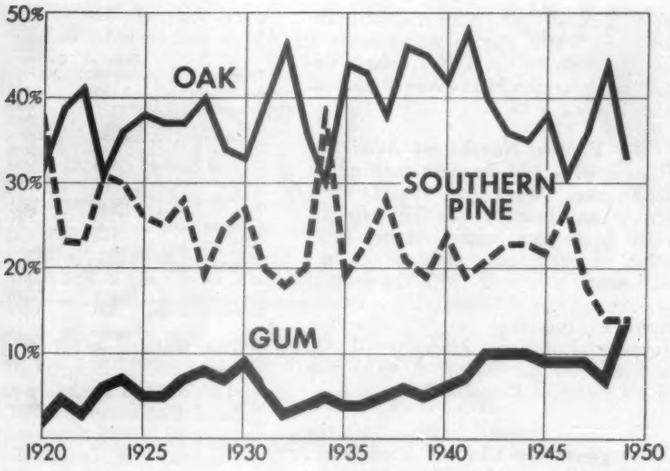
The **Railway Business Women's Association of Chicago** installs its newly elected officers this month, when Marie C. Miller, outgoing president, hands over the gavel to Iona K. DeCamp, who will serve for the next two years. Marie E. Brown has been elected second vice-president, and Lorraine M. Lewand, treasurer. Other officers will continue for another year.

The **Trans-Missouri-Kansas Shippers Board** will hold its 90th regular meeting in the Hotel President, Kansas City, Mo., on June 20-21. Donald V. Frazer, president of the Missouri-Kansas-Texas, will be guest speaker on the 21st.

The **Midwest Shippers Advisory Board** will hold its 95th regular meeting at the Hotel Schroeder, Milwaukee, on July 11 and 12. All board members will be guests of the Blatz Brewing Company at a smoker to be held in the Auditorium, 1047 N. Broadway, on the night of the 11th. Immediately following adjournment of the regular meeting on the 12th, all members and guests will attend an outdoor barbecue sponsored by Union Refrigerator

Gum Crossties Are as Good as Oak or Better . . .

when treated by modern process that prevents decay and assures top quality and longer life in track



THIS GRAPH SHOWS HOW the depletion of Southern pine and the sharp increase in the cost of oak have boosted the use of gum ties from two per cent of the total of all varieties treated in 1920 to 14 per cent in 1949. Even though price and procurement difficulties are forcing greater utilization of gum, you avoid the hazard of decay and get top-quality crossties with Vapor-Drying.

When railway engineers or timber experts discuss gum for crossties, they usually agree that *when properly seasoned and treated:*

1. Gum has excellent resistance to mechanical wear.
2. It checks and splits much less than oak.
3. It has long life in track.
4. No anti-splitting devices are needed.
5. It has adequate strength, and . . .
6. In many sections it is cheaper and more plentiful than oak.

These would seem to be ideal qualities for crossties. Why, then, is gum not used more extensively?

Because gum tends to decay rapidly during the air seasoning period, prior to preservative treatment. Although "rot on the yard" can be partially avoided by restricting the cutting of gum to wintertime and by very careful handling of the timber in air seasoning yards, a modern method now offers POSITIVE means of eliminating decay.

That modern method is Vapor-Drying*, a process which eliminates the many months of air seasoning. Gum ties are now being shipped directly from sawmills to treating plants where they are Vapor-Dried and creosoted in a few hours. With this new process, preservatives penetrate deeper and are better distributed. Even the heartwood of red gum, so vulnerable to decay because it is impervious to preservatives, is completely sterilized. Moreover, any checking which may have begun before Vapor-Drying, is arrested. The result is ties which competent railway and wood preserving authorities declare are as good or better than oak, and often much cheaper.

Gum is plentiful. Large stands exist all over the eastern United States, especially in the South, and also west of the Mississippi. It is not used as generally or for as many purposes as some other species, hence tie producers encounter less competition.

But regardless of species, Vapor-Drying offers many advantages in the production and treatment of ties—ties that will last longer and reduce maintenance costs. Several roads, including the Southern, Norfolk and Western, Clinchfield, and Charleston and Western Carolina are now using Vapor-Drying ties. Let us give you complete and factual information on how *your* road can profit from their use. Write Vapor-Drying Division, Taylor-Colquitt Co., Spartanburg, South Carolina.

This is the second of a series of discussions on the economic aspects of Vapor-Drying. Watch for the next in an early issue. Reprints of the first advertisement, showing how Vapor-Drying can save upwards of $100 a mile, are available upon request.

(Advertisement)

TAYLOR-COLQUITT CO. T·C TIMBER CONSERVATION ®

*Process patented

Transit Lines. The Chicago, Milwaukee, St. Paul & Pacific will operate a special train to the U.R.T. plant, departing from the Milwaukee station at 12:15 p.m.

The **Pacific Northwest Advisory Board** will hold its next meeting in Bellingham, Wash., at the Leopold Hotel, on June 21-22. The freight claim prevention, transportation, executive, and railroad contact committees will meet on June 21, with the general session on the following day. H. H. Stevens, president of C. Gardner Johnson, Ltd., of Vancouver, B. C., will address the board on "The Nation's Greatest Potential."

The 31st annual outing of the **Transportation Club of Rochester, N. Y.,** will be held on June 14 at the Bay View Hotel.

The **Traffic Club of Cleveland** will hold its annual outing and election of officers at the Pine Ridge Country Club on June 14.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

May Freight Car Production Just Misses 10,000 Goal

Virtual attainment in May of the 10,000-car-a-month freight car construction goal has been announced jointly by the American Railway Car Institute and the Association of American Railroads, coincident with a curtailment in the steel allocation for continuing the program.

New car construction during May reached 9,774 cars and would have gone above the 10,000 mark for the first time since April 1949, according to the announcement, except for strikes in two plants that cost more than 300 cars.

"Due to shortages of materials and manpower," the statement said, "it has been a difficult undertaking to bring production from 3,464 in July 1950 to 5,700 in December and to the 10,000-car-per-month objective set by the Defense Transport Administration as necessary to prepare the railroads for any emergency. It is unfortunate that now as the objective is substantially reached, serious curtailments in steel allocations and deliveries for the third quarter confront the railroads and car-building industries. Any such curtailments will insure that production will begin to drop again in the third and fourth quarters."

Orders placed in May for new freight cars totaled 4,919, bringing the backlog of cars on order as of June 1 to 150,628. A breakdown, by types, of cars ordered and delivered during May, and on order on June 1, follows:

Type	Ordered May 1951	Delivered May 1951	Undelivered June 1,1951
Box—Plain	2,180	4,704	50,032
Box—Auto	....	30	1,800
Flat	....	363	3,503
Gondola	1,258	2,078	31,644
Hopper	2	1,198	38,660
Covered Hopper	100	454	4,578
Refrigerator	....	403	7,278
Stock	....	....	500
Tank	1,265	437	11,156
Caboose	....	61	450
Other	114	46	1,027
TOTAL	4,919	9,774	150,628
Carbuilders	4,319	7,198	105,757
Railroad Shops	600	2,576	44,871

The **Baltimore & Ohio** has authorized the building in its own shops of 1,000 50-ton steel box cars. It is estimated that materials will be on hand by April 1, 1952, so that work can begin at that time. Inquiry for these cars was reported in *Railway Age* April 2, page 86.

The **Spokane, Portland & Seattle** has ordered 500 box cars from Northern Pacific shops, at an estimated cost of $3,000,000. Delivery of the cars, inquiry for which was reported in *Railway Age* of May 14, page 108, is expected to begin in September 1952.

The **United States Army Transportation Corps** is inquiring for 100 100-ton and 100 80-ton flat cars for passenger service and 650 100-ton and 150 80-ton flat cars for freight service.

LOCOMOTIVES

The **Rutland** has ordered six 1,000-hp. diesel-electric locomotive units, for use in freight service, from the American Locomotive-General Electric Companies at an approximate total cost of $675,000. These are in addition to the five 1,600-hp. road-switching units previously ordered from the same builders, as reported in *Railway Age*, February 26, page 51.

The **St. Louis-San Francisco** has ordered from the Electro-Motive Division of General Motors Corporation 37 diesel-electric locomotive units, including 27 1,500-hp. general purpose units and 10 1,200-hp. yard switching units. Receipt of these units, and of others currently on order but undelivered, will bring to 407 the total number of diesel units in service on the Frisco; and, according to President Clark Hungerford, will permit complete dieselization, probably early in 1952, of the entire system, including the Alabama, Tennessee & Northern and the Quanah, Acme & Pacific.

SIGNALING

The **Pennsylvania** has ordered from the Union Switch & Signal Co. material to install new interlocking facilities at East Adams and West Adams, N. J., and to consolidate their control at County, N. J., approximately two miles from East Adams and four miles from West Adams. In addition to the 5-ft. style C control machine, the order includes code equipment, position-light signals, style A-5 electro-pneumatic switch machines, style SL-21A electric switch locks, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

SUPPLY TRADE

R. C. Roderick, above, formerly head of distribution service at A. O. Smith Corporation's Water Heater division, Kankakee, Ill., has been appointed manager of the Railroad Products division. He succeeds George B. Peet, below, who

becomes project manager of development programs for the Railroad Products and Welding Products divisions and functions also as assistant to J. J. Bohmrich, group executive for Railroad Products, Welding Products and Product Service divisions

The **National-Pneumatic Company** has opened an office at 1228 Buhl building, Detroit. **T. Austin Casey,** formerly of the Chicago office, has been appointed to take charge of the new Detroit office.

Henry F. Blankenbiller, formerly in charge of railway disc brake sales for the **Budd Company,** has been appointed manager of the railway service department, to succeed **Clyde C. Elmes,** who has retired, and **Robert**

JACKSON

MULTIPLE TAMPERS

Now **IMMEDIATELY AVAILABLE**

ON TERMS TO SUIT YOUR PARTICULAR BUDGETARY REQUIREMENTS

Prompt deliveries can be made to those who wish to capitalize immediately on the tremendous advantages of this machine, or to those who wish to rent one and prove on their own track that it is

BY FAR THE BEST FOR BOTH SMOOTHING OPERATIONS

in which there is little or no lift and no new ballast is spread, as well as

MAJOR BALLAST INSERTIONS

in any lift and in any type or size of ballast

Equipped with Interchangeable Tamping Blades, All 1951 Models are

VERSATILE BEYOND COMPARISON

Savings Made in a Single Season Usually Exceed the Cost of the Machine

ELECTRIC TAMPER & EQUIPMENT CO. LUDINGTON MICHIGAN

G. Stacy, formerly assistant sales manager of the railway disc brake sales department, has been appointed to replace Mr. Blankenbiller as head of railway disc brake sales.

Henry F. Blankenbiller

Mr. Blankenbiller joined Budd in 1940 in the automotive wheel sales department, at Detroit, and was placed in charge of railway disc brake sales in 1941.

Mr. Stacy joined Budd in 1936 and

Robert G. Stacy

first worked in the blueprint department of the product engineering division. He was one of a group who did research and development work on the disc brake and subsequently was appointed assistant sales manager of the railway disc brake sales department.

The traffic division of the **Esso Standard Oil Company** has been reestablished as a corporate department in a reorganization of the supply and transportation operations of the company. **E. D. Sheffe,** who has directed traffic operations first as a department and later when it was merged with the supply and transportation department, will continue as general traffic manager.

J. G. Wallace, formerly division manager for the **Texas Company** at San Francisco, has been appointed assistant manager, railway traffic and sales department, with headquarters at New York. **Walter E. Wilcox,** formerly assistant division manager at St. Louis, has been appointed division manager, railway sales division, at San Francisco. Mr. Wallace joined the company as lubricating engineer in 1924 and was advanced to division manager at San Francisco in April 1933. Mr. Wilcox joined Texas in November 1933, as lubrication engineer, and was appointed assistant division manager at St. Louis in February 1945.

Alex P. Shearwood has been appointed vice-president of the **National Steel Car Corporation** of Montreal, Que., and Hamilton, Ont. Mr. Shearwood worked for the Dominion Bridge Company in 1927 and 1928 and for the Canadian Pacific in 1929 and 1930. He was graduated from McGill University

Alex P. Shearwood

in arts in 1930 and engineering in 1932 and, in June 1932, joined the engineering department of National Steel Car at Hamilton. He was transferred to the Montreal office in 1934 and was appointed mechanical assistant to the president in 1939 and general sales manager in 1947.

The Cleco division of the **Reed Roller Bit Company,** Houston, Tex., has appointed three new distributors: **Keystone Builders Supply Company,** 85 Palm street, Rochester, N. Y.; **Pit & Quarry Equipment Co.,** 3828 East Washington street, Indianapolis; and **Hays Supply Company,** Memphis.

Arthur J. Kroll, traffic manager of the Manville, N. J., plant of the **Johns-Manville Corporation** since 1943, has been appointed director of traffic, to succeed **Raymond J. Newberry,** deceased, and **Joseph J. Scully,** assistant to the traffic manager since 1944, has been appointed assistant director of traffic.

S. C. Palmer, formerly assistant manager of the transportation sales department of the **Westinghouse Electric Corporation,** has been appointed manager of the department, succeeding **J. A. Schoch,** who has been appointed consulting engineer for the transportation and generator division. Mr. Palmer joined Westinghouse in 1931 as a member of the graduate student course and, in July 1934 was assigned to sales duties in the Boston office. In 1946 he was appointed manager of the marine and transportation division in the New England district and, earlier this year, was appointed assistant manager of the transportation department at East Pittsburgh.

The **Farr Company** has moved its main office and production facilities to 2301 East Rosecrans avenue, El Segundo, Cal.; mailing address is P. O. Box 10187, Airport Station, Los Angeles 45. The company's Chicago branch office and warehouse also has moved to larger quarters at 5433 West Belmont avenue.

Standard Railway Equipment Manufacturing Company, long a closely held corporation, has listed its stock for trading on the Midwest and New York Stock exchanges, President R. Arthur Williams has announced. The company now has 7,500 stockholders, and 1,385,000 capital shares of $1 par value stock outstanding.

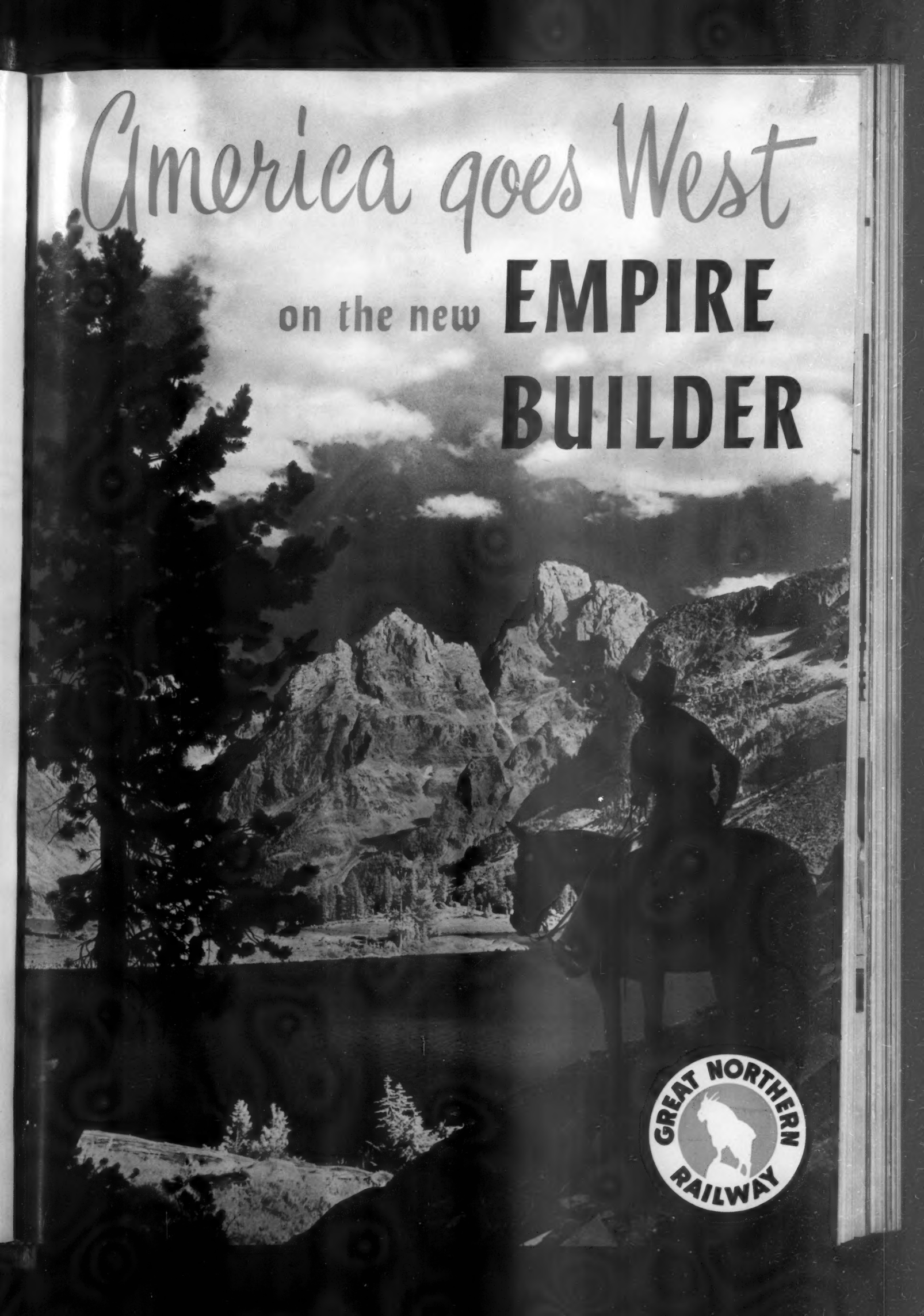
Kenneth I. Thompson, general sales manager of the **Oxweld Railroad Service Company,** a division of **Union Carbide & Carbon Corp.,** at Chicago, has been elected also a vice-president and director of the **Canadian Railroad Service Company,**

Kenneth I. Thompson

a unit of Union Carbide & Carbon. Mr. Thompson began his career in the industrial equipment business in 1921 with the Pennsylvania Pump & Compressor Co., and, before joining Oxweld, was in the sales department of the Ingersoll-Rand Company.

The **United States Steel Products Company** has exercised an option to purchase 23.1 acres of land in Pennsauken township, N. J., as a site for eventual construction of a steel container plant. The property, 20 miles

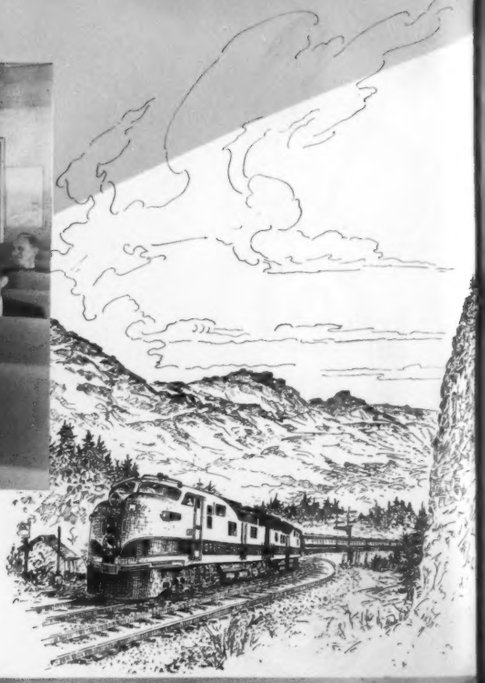
(Continued on page 91)


America goes West
on the new EMPIRE BUILDER
GREAT NORTHERN RAILWAY

Exciting new cars TH

TO 'CORRAL' MORE P

COACHES



Comfortable G.C.F. day coaches accommodate 60 passengers, with modern lounges for men and women at either end of the cars. The attractive interior color scheme harmonizes with the overall decorative design of the entire train.

DINERS

Tables for two and four comfortably seat 36 persons in the G.C.F.-built dining cars of Great Northern's streamlined new Empire Builder. Unique carved glass partitions, separating end tables from the others, depict scenes from various industries in the heart of the railway's territory.

Pleasing, soft pastel colors lend a perfect touch to the restful dignity of the dining cars. The carved glass partitions in the foreground represent the mining industry at the left, and the wood industry at the right, important resources and activities served by the railway.

THAT ARE BOUND

PASSENGERS

A portion of the table section and lounge of 'The Ranch'... the coffee shop-lounge of the new Empire Builder. Passenger comfort is enchanced by the decorative motif which lends a true western atmosphere... typical of the country through which the train operates.

COFFEE SHOP LOUNGE CARS

Counter section of the coffee shop-lounge car seats 14 travelers. A familiar scene of the early west is brought back in a large two-section mural behind the counter, one section of which is pictured here.

Pinto leather, livestock brands, branding irons, paneled walls and cedar posts, all in the tradition and colors of the west add to happy traveling. The tables seat 12, the counter 14 and the lounge 18.

Lounge section of 'The Ranch' features russet leather panels with famous Montana livestock brands burned into the leather. These and all other interior fittings and furnishings were produced from designs developed by the A.C.F. Design Section.

built by a.c.f.

OBSERVATION CARS

GREAT NORTHERN RAILWAY

Luxury and comfort are evident in this A.C.F.-built observation-lounge car. The observation room seats 18 passengers, with a two-passenger upholstered settee occupying the semi-elliptical end of the floor space.

The lounge section which seats 18, is furnished with deep cushioned chairs and settees designed from sketches developed by A.C.F. Chairs are all upholstered in Super Needlepoint plush in mauve, woodtone and turquoise.

A wing partition separates the observation room from the lounge. Forward of the observation and lounge area are the bar and utility area and the sleeping section consisting of three roomettes.

Without a doubt the *new* Empire Builder is a train conceived in the spirit of progress and dedicated to the practical purpose of attracting more passengers to travel via Great Northern.

Building traffic is a Railroad's job. Building passenger cars that *help* build traffic is A.C.F.'s job. From design to engineering...from the production start to the delivery date...A.C.F. experience, personnel and facilities are available to *all* railroads. You are invited to consult an A.C.F. representative on *your* future passenger car plans. American Car and Foundry Company, New York · Chicago · St. Louis · Cleveland · Philadelphia · Washington San Francisco.

Exterior view of observation-lounge car . . . and a lucky couple starting a memorable trip on the new Empire Builder!

a.c.f. CAR BUILDERS TO AMERICA'S RAILROADS

(Continued from page 86)

southeast of the Fairless Works, now under construction at Morrisville, Pa., is across the Delaware river from Philadelphia. It is contemplated that steel for operation of the proposed new plant will be supplied by the Fairless Works, scheduled for completion by the end of 1952. No date has been set for building the new plant, but it is expected that preparations for commencement of construction will proceed at once.

John W. Porter has joined the **General Railway Signal Company,** with headquarters in Rochester, N. Y. Mr. Porter formerly was engaged on engineering coordination for electrification of the New Zealand Government Railways.

Thomas C. Wilson, Inc., has opened a new office at 3147 North Broad street, Philadelphia, to serve the Philadelphia, Camden, N. J., and Trenton areas. **Henry Steffans,** sales engineer for Wilson in New York since 1949, has been appointed manager of the Philadelphia office.

John C. Wallace has been appointed chief engineer for the newly created diesel locomotive parts research and development division of the **Hunt-Spiller Manufacturing Corporation,** Boston. Mr. Wallace entered the railroad field in 1946 as a draftsman in the equipment maintenance department of the Bessemer & Lake Erie, and in 1948 joined the Lima-Hamilton Corporation as a design engineer. He was engaged in diesel locomotive application surveys before his appointment as engineering representative in 1950 and, following the Baldwin, Lima-Hamilton merger, was transferred to Eddystone, Pa., as special projects development engineer.

CONSTRUCTION

Atchison, Topeka & Santa Fe.—A contract covering grading and bridge work in connection with changes of line between Craig and Olathe, Kan., has been awarded to the George Bennett Construction Company of Kansas City, Kan.

Atlantic Coast Line.—To facilitate night operations, and so expedite movement of perishables and other freight, the A.C.L. plans to install floodlights in its Lakeland, Fla., yard this summer. Thirty automatically controlled lights, covering the entire yard, will be installed on eight 100-foot tubular steel towers. Two-way space radio equipment, previously ordered from the Bendix Aviation Corporation (*Railway Age,* December 16, 1950, page 64), will be installed on four yard locomotives and at strategic points in the yard.

Long Island.—This road has authorized the following projects at the indicated estimated costs: Automatic speed control from Jamaica, N. Y., to Mineola ($526,000), from Jamaica to Babylon ($474,000), and from Long Island City to Jamaica ($625,000); automatic speed control apparatus for passenger cars and steam and diesel locomotives at Morris Park, N. Y. ($2,743,000); rearrangement of enginehouse facilities (to provide space for applying speed control apparatus) at Richmond Hill, N. Y. ($75,000); 24 pair lead covered cables to replace 16 pair lead covered cables from Rockville Center, N. Y., to Babylon ($120,000); and automatic short arm gates at Massapequa Park, N. Y. ($35,000), at Malverne, N. Y. ($96,000), at Lakeview, N. Y. ($60,000) and at Glen Head, N. Y. ($34,000). The speed control installations are part of a general safety program announced last winter (*Railway Age,* January 15, page 247).

Missouri-Kansas-Texas.—An extension to Eureka yard (Houston) is now in progress. The project, which will cost approximately $250,000, involves some light grading, installation of a 72-foot track scale, construction of about 7 miles of yard track, a yard office, a locker building, and drainage and fuel facilities. There will be a small grading contract, with the balance of the construction being handled by company forces.

New York, New Haven & Hartford.—The following projects have been authorized at the indicated estimated costs: Auto unloading platform at Oak Point, N. Y. ($30,500); additional diesel facilities on the Providence & Worcester, at Providence, R. I. $36,(000); electric repair shop alterations at Stamford, Conn. ($118,700); improvement of platform and additional lift trucks at a lighterage dock, Harlem River, N. Y. ($61,000); and replacement of retarder "C" at Northrup avenue, Hump Tower "A", Providence ($19,800).

Northern Pacific.—Two line changes will be made near the summit of the Cascade mountains during the summer months, at a total expenditure of $350,000. A contract for grading for new right-of-way, involving about 215,000 cu. yd. of excavation, has been awarded to J. A. Terteling & Sons, Inc., Auburn, Wash. Two single-track tunnels about six miles apart—one east and one west of Stampede tunnel—through which westbound trains operate will be eliminated and the roadbed that carries the eastbound track will be widened or relocated to accommodate double track. A total of 13,165 feet of new track will be laid and the same amount of existing track will be moved to new alinement. The new line is expected to be ready for operation about November 1.

FINANCIAL

Court Upholds I.C.'s Right to Omit Dividends

The ruling of a federal district court, that the right of discretion on payment of dividends rests with a company's board of directors, has been upheld by a United States Circuit Court of Appeals in a stockholder's suit brought against the Illinois Central.

The original suit was brought in the U. S. District Court for the Eastern District of New York at Brooklyn in June 1948 by Alexander Guttmann, who had acquired 200 shares of Illinois Central 6 per cent preferred stock in 1945. He claimed that the directors had wrongfully withheld payment of dividends during the period 1937 through 1947, and that the I. C. was therefore in arrears on these payments. The road pointed out that the stock involved is a non-cumulative, convertible issue, and that the directors deemed it advisable to use available funds to rehabilitate the property and reduce debt before paying dividends. Federal District Judge Clarence Galston ruled, in May 1950, that the right of discretion rests with the board of directors and, in the absence of evidence of abuse of that right, ordered the case dismissed. This decision was then appealed, but claim for unpaid dividends for the period 1937 through 1941 was dropped.

In a decision written by Judge Jerome Frank, and rendered on May 31, the Circuit Court of Appeals for the 2nd Circuit in New York City upheld the disposition of the district court ordering the case dismissed.

Alabama Great Southern.—*Lease and Purchase.*—This road has applied to the I.C.C. for authority to lease approximately 10.3 miles of track between York, Ala., and Lilita. The segment is owned by the Southern, but abandonments in prior years have severed the line from any connection with the latter road. The A.G.S. will pay $10 a year rental, plus taxes and maintenance costs. In another application to the I.C.C. this road asked authority to purchase for $41,800 the properties o fthe Southern at Meridian, Miss. These include about 5.7 acres of land and some trackage. The Southern controls A.G.S. through ownership of capital stock.

Baltimore & Ohio.—*R.F.C. Loan.*—W. Stuart Symington, administrator of the Reconstruction Finance Corporation, announced on June 1 that he had appointed Joseph J. Smith, Jr., as "special counsel" to study "the details" of the outstanding R.F.C. loan to this road. The balance due on the loan is now $76,308,000.

As noted in *Railway Age* of June 4, page 90, the controversy with respect to this loan has again flared up as a

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result of recent representations, such as have been made in the past, to the effect that there were improprieties in the transaction. These allegations of "wrongdoing" have been referred by the R.F.C. to the Department of Justice which has the matter "under study" in an investigation unrelated to the "fact-finding" inquiry to be conducted by Mr. Smith. The latter will be Mr. Symington's investigator, reporting directly to the R.F.C. administrator on "what is right and fair from the taxpayers' standpoint," and "what is right and fair from a legal standpoint." It is a "complicated matter," Mr. Symington said.

A member of the Washington, D. C., law firm of Hogan & Harston, Mr. Smith is also special counsel to the Federal Reserve Board in its Clayton-Act proceeding against Transamerica Corporation. He was formerly chief counsel of the Federal Trade Commission.

Meanwhile, the Senate Committee on Banking and Currency has made public a "proposed report" which Senator Tobey, Republican of New Hampshire, made on a 1947 investigation of the loan. The investigation was conducted by a banking and currency subcommittee of which Senator Tobey was chairman, but the senator's "proposed report," dated July 25, 1947, was not adopted by the subcommittee.

The Tobey report is a document of 74 pages. It reviews, with the senator's appraisals, interpretations and other comment, the evidence received by the subcommittee in the course of its investigation. The evidence was developed at public hearings held during April and May, 1947, and reported in *Railway Age* at that time. Senator Tobey's only recommendation was that the record before the subcommittee "be referred to the Department of Justice."

The senator's review of the evidence led him to these three general conclusions: (1) The R.F.C. in its arrangements with B.&O. "has exposed its loan to B.&O. to far greater risks than was necessary or warranted by B.&O.'s financial condition"; (2) R.F.C. arrangements with the B.&O. "violated . . . the R.F.C. Act"; and (3) R.F.C., in its dealings with B.&O., "was a party to a collusive and irregular proceeding under Chapter 15 of the Bankruptcy Act."

That chapter embodied procedures whereby railroads could effect voluntary readjustments of their financial structures. It was temporary legislation, enacted first by the Chandler Act and then reenacted by the McLaughlin Act. Similar legislation of a permanent nature is now embodied in section 20b of the Interstate Commerce Act, which was enacted by the so-called "Mahaffie Act."

The B.&O. went through a Chandler-Act proceeding and then a McLaughlin-Act proceeding, the latter putting into effect the road's so-called 1944 plan of financial readjustment. It is this 1944 plan and the R.F.C.'s role in facilitating its consummation that has been under fire.

Critics of the transaction have also made much of the fact that two B.&O. officers—Vice-President R. L. Snodgrass and General Solicitor F. E. Baukhages—were formerly members of the R.F.C. staff. Their former R.F.C. colleague, Cassius M. Clay, also became associated with the road as general solicitor, but resigned in protest against the 1944 readjustment plan.

Chicago, Burlington & Quincy. —*Trackage Rights.*—Division 4 of the I.C.C. has approved this road's request for authority to acquire trackage rights over approximately 7 miles of the Wabash between East Hannibal, Ill., and Hulls. The Burlington will construct a 700-foot connecting track at East Hannibal at a cost of approximately $6,000. Use of the Wabash line will permit the Burlington to abandon about 15 miles of branch line in this area. The abandonment is required by a flood control project and has already received I.C.C. approval. The commission, however, has withdrawn its approval for abandonment of another Burlington segment between Hulls and New Canton, Ill., about 9 miles.

Helena & Northwestern.—*Reorganization.*—This road has filed for reorganization under section 77 of the Bankruptcy Act in the U. S. District Court for the Eastern District of Arkansas. In a petition made public by the I.C.C., the road said it is without funds to pay its outstanding obligations. These amount to $145,021, including a balance of $35,000 due on the agreed down-payment for its properties. The H. & N. extends from Helena, Ark., to Cotton Plant, 53 miles.

International-Great Northern—Texas Mexican.—*Operating Agreement.*—An agreement between these two roads covering the interchange of cars with the National of Mexico at Laredo, Tex., has been approved by the I.C.C. Under the agreement the I.-G.N. will have joint use of T.M. tracks leading up to and halfway across the International Railroad Bridge at Laredo. I.C.C. approval of the agreement was made subject to two principal conditions: It shall remain in effect so long as the National of Mexico segregates northbound cars and makes block deliveries to the I.-G.N. and T.M.; and so long as no preference is given I.-G.N. by National in the delivery of the former's northbound cars.

This arrangement between the I.-G.N. and the T.M. is expected to result in "more practical and economical" handling of cars between the two roads and National. (*Railway Age*, October 1, 1949, page 60.)

Missouri-Kansas-Texas. — *Adjustment Bonds.* — Directors of this road have authorized payment of one coupon on the adjustment mortgage bonds. The coupon will become due and payable June 1 and is No. 52, dated October 1, 1948.

Missouri Pacific.—*Reorganization.* —The I.C.C. has granted the debtor company and the Allegheny Corporation permission to inspect all ballots and other documents involved in the recent vote on this road's reorganization plan. The only exception applies to I.C.C. inter-office memoranda, which shall not be subject to inspection. Nor will other parties be permitted to examine the records on the basis of the present order.

Allegheny owns 438,000 shares of M.P. common stock and these holdings would be wiped out if the present reorganization plan is finally approved in the courts. The plan has already been accepted by a large number of other security holders, whose ballots are on file with the I.C.C. (*Railway Age*, May 28, page 72.)

The commission has certified to the U. S. District Court for the Eastern District of Missouri the results of voting by eligible stockholders and creditors on the plan. It has also issued a supplemental order in connection with this certification. This order makes no significant changes in the certification and it has no effect on the voting results. It was issued to clear up minor errors in the original order.

New York Central. — *Trackage Rights.*—This road has been authorized by the I.C.C. to acquire trackage rights over about 730 feet of Erie line within the switching limits of Dunkirk, N. Y. The new arrangement is a part of N.Y.C.'s plan to relocate its so-called Valley branch connecting track so the American Locomotive Company will have room to enlarge its plant at Dunkirk. The Erie will also relocate certain of its tracks in connection with the expansion, and the locomotive company will pay for all construction involved.

Southern Pacific.—*Lease of Subsidiary.*—This road has asked the I.C.C. for authority to renew its lease of all properties of the Southern Pacific Company, a wholly-owned subsidiary. The new lease would be "substantially the same" as the present one, which expires June 30. It would run from July 1, 1951, to December 31, 2000. The S. P. Company owns about 1,989.5 miles of main-line track and 1,270.5 miles of branch lines, generally between San Francisco and El Paso, Tex.

Union Pacific.—*Construction of New Line.*—The I.C.C. has dismissed, for want of jurisdiction, this road's application for authority to construct a new westbound main line between Cheyenne, Wyo., and a point near Dale Creek, approximately 42 miles. (*Railway Age*, April 16, page 75.)

Union Pacific. — *Merger of Subsidiary.*—Division 4 of the I.C.C. has approved a merger plan under which the 44-mile Saratoga & Encampment Valley will become a branch of the U.P. and the separate company will

Photograph of automotive crankshaft shown in radiograph below.

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be dissolved. (*Railway Age*, March 19, page 88.) The S.&E.V. is a wholly-owned U.P. subsidiary, and the present merger will permit the U.P. to make all possible economies.

Western Maryland.—*Modification of Securities.*—The I.C.C. has dismissed without prejudice this road's request for authority to alter its corporate charter and its capital stock structure. (*Railway Age*, October 21, 1950, page 61.) Dismissal of the application, the commission said, was made at the road's request.

New Securities

Application has been filed with the I.C.C. by:

CHESAPEAKE WESTERN.—To issue $600,000 of first and refunding mortgage 4 per cent bonds, to refund a like amount of 4 per cent first mortgage gold bonds which will mature October 1. All the maturing bonds are owned by the applicant's president and general manager, D. W. Thomas, who also owns all its common stock. The refunding would be effected by exchanging the new bonds at par for the old bonds. The new bonds, dated October 1, would mature October 1, 2001.

LAKE TERMINAL.—To issue five notes totaling $2,657,100 to its parent company, the United States Steel Corporation. The notes would evidence moneys advanced by the steel company to finance five diesel-electric locomotives, 150 gondola cars, 150 hopper cars, and other additions and betterments.

PENNSYLVANIA-READING SEASHORE.—To issue $4,000,000 of series A first mortgage bonds to be sold by competitive bids. Proceeds from the sale would be used to retire outstanding bonds that are scheduled to mature or be called in this year. The bonds would be dated July 2, 1951, and would mature July 1, 1976. The interest rate would be set by the competitive bidding. A supplemental application was filed by the Pennsylvania and the Reading Company, owners of this road, for authority to assume liability for the new bond issue.

ST. LOUIS SOUTHWESTERN.—To issue $9,000,000 of 2½ per cent collateral trust bonds for delivery to the Southern Pacific. Together with a cash payment of $2,482,250, these bonds would pay off a note of $11,482,250 held by the S.P. This note represents the unpaid balance on a loan which the St.L.S. obtained from the Reconstruction Finance Corporation in the 1930's. The S.P. took over this indebtedness from the R.F.C. in 1936.

The new bonds would mature in annual installments of $1,000,000 each, beginning July 1, 1953, with a final installment of $2,000,000 due July 1, 1960.

Division 4 of the I.C.C. has **authorized:**

ASHLEY, DREW & NORTHERN.—To issue 12,000 additional shares of capital stock for distribution among the road's present stockholders. The new stock will have a $25 par value, and issuance of the 12,000 shares will increase the road's capital stock from $300,000 to $600,000. (*Railway Age*, May 7, page 81.)

CHESAPEAKE & OHIO.—To assume liability for $6,450,000 of equipment trust certificates to finance in part 1,175 new freight cars and eight diesel-electric locomotives. Estimated total cost of the new equipment is $8,130,615. (*Railway Age*, May 14, page 112.) The certificates, to be dated May 15, will mature in 30 semiannual installments of $215,000 each, beginning November 15, 1951. Division 4 approved a selling price for the issue of 99.203 with interest at 2⅞ per cent — the bid of Salomon Bros. & Hutzler and three associates — which will make the average annual cost of the proceeds approximately 3 per cent. The certificates were reoffered to the public at prices yielding from 2.15 to 3 per cent, according to maturity.

MINNEAPOLIS, NORTHFIELD & SOUTHERN.—To capitalize retained earnings by issuing 21,150 shares of new $100 par common stock, to be distributed among stockholders as a stock dividend. (*Railway Age*, May 7, page 81.) The road has used $3,198,971 of retained earnings since July 31, 1941, for additions and betterments, bond retirement, and working capital.

Dividends Declared

Allegheny & Western.—$3, semiannual, payable July 2 to holders of record June 20.

Chicago South Shore & South Bend.—25¢, payable June 15 to holders of record June 5.

Clearfield & Mahoning.—$1.50, semiannual, payable July 1 and January 2, 1952, to holders of record June 20 and December 20.

Dayton & Michigan.—8% preferred, $1, quarterly, payable July 2 to holders of record June 15.

Illinois Central.—Leased lines 4% guaranteed, $2, semiannual, payable July 1 to holders of record June 11.

Nashville & Decatur.—7½% guaranteed common, 93¾¢, semiannual, payable July 2 to holders of record June 20.

Security Price Averages

	June 5	Previous week	Last year
Average price of 20 representative railway stocks	52.27	52.79	40.86
Average price of 20 representative railway bonds	93.89	94.17	91.12

RAILWAY OFFICERS

EXECUTIVE

Paul Appleton Moffitt has been appointed assistant to vice-president—operation of the ST. LOUIS-SAN FRANCISCO, as announced in the April 23 *Railway Age*. Mr. Moffitt was born August 22, 1900, at Rushville, Ind., and following graduation from high school attended Drury College, Springfield, Mo. He started with the Frisco in January 1920 as a clerk in the stores department at Springfield. Subsequently he was assigned to various secretarial and clerical positions in the operating department, and in January 1945 he became assistant to general manager at Springfield. A year later he was appointed chief clerk to general manager, and in May 1948 was transferred to St. Louis as chief clerk to vice-president — operation, which position he held before his latest appointment.

Paul Appleton Moffitt

As announced in *Railway Age* April 30, **David C. Bevan** has been appointed vice-president in charge of finance of the PENNSYLVANIA at Philadelphia, effective May 16. Mr. Bevan was born in Philadelphia 44 years ago. Following graduation from Haverford College and the Harvard Graduate School of Business Administration (1931), he entered the trust department of the Provident Trust Company of Philadelphia. In 1942 he was associated with the War Production Board in Washington and served as a member of the Lend-Lease Mission to Australia in 1943 and 1944. The following year he was deputy head of the United States Mission of Economic Affairs in London. Returning to this country in 1946, Mr. Bevan became assistant vice-president of the Provident Trust Company in the banking department. In the fall of that year he joined the New York Life Insurance Company as assistant treasurer, becoming assistant vice-president in 1947 and treasurer in 1949. Mr. Bevan held the latter position at the time of his appointment as vice-president, finance, of the Pennsylvania.

David C. Bevan

Chester J. Jump, assistant to the president of the RAILWAY EXPRESS AGENCY, has been appointed vice-president and secretary, with headquarters as before at New York. Mr. Jump was born at Elliston, Ky., and began his express career in Cincinnati in 1910, transferring to Philadelphia in 1919 and to New York in 1923. He was assistant to vice-president — accounting prior to becoming assistant to the president in June 1949.

Chester J. Jump

News continued on next right-hand page

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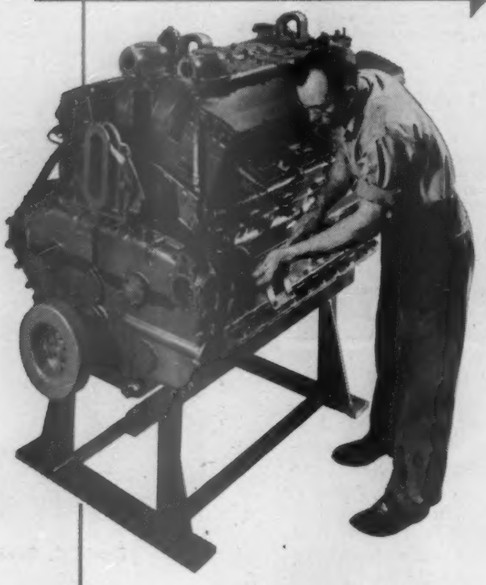

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George W. Cox, industrial agent of the GULF, COLORADO & SANTA FE at Galveston, Tex., has been appointed assistant to president for the ATCHISON, TOPEKA & SANTA FE SYSTEM, with headquarters at Chicago. In his new post Mr. Cox will be primarily in charge of industrial matters.

William E. Deaton, industrial and tax commissioner of the ELGIN, JOLIET & EASTERN, has been appointed assistant to president, with headquarters remaining at Chicago. He succeeds **Daniel J. O'Connell,** who has been elected secretary and treasurer, as reported elsewhere in this issue. Mr. Deaton will continue in charge of industrial development, public relations and real estate, and as editor of the road's employee magazine, the "J Milepost."

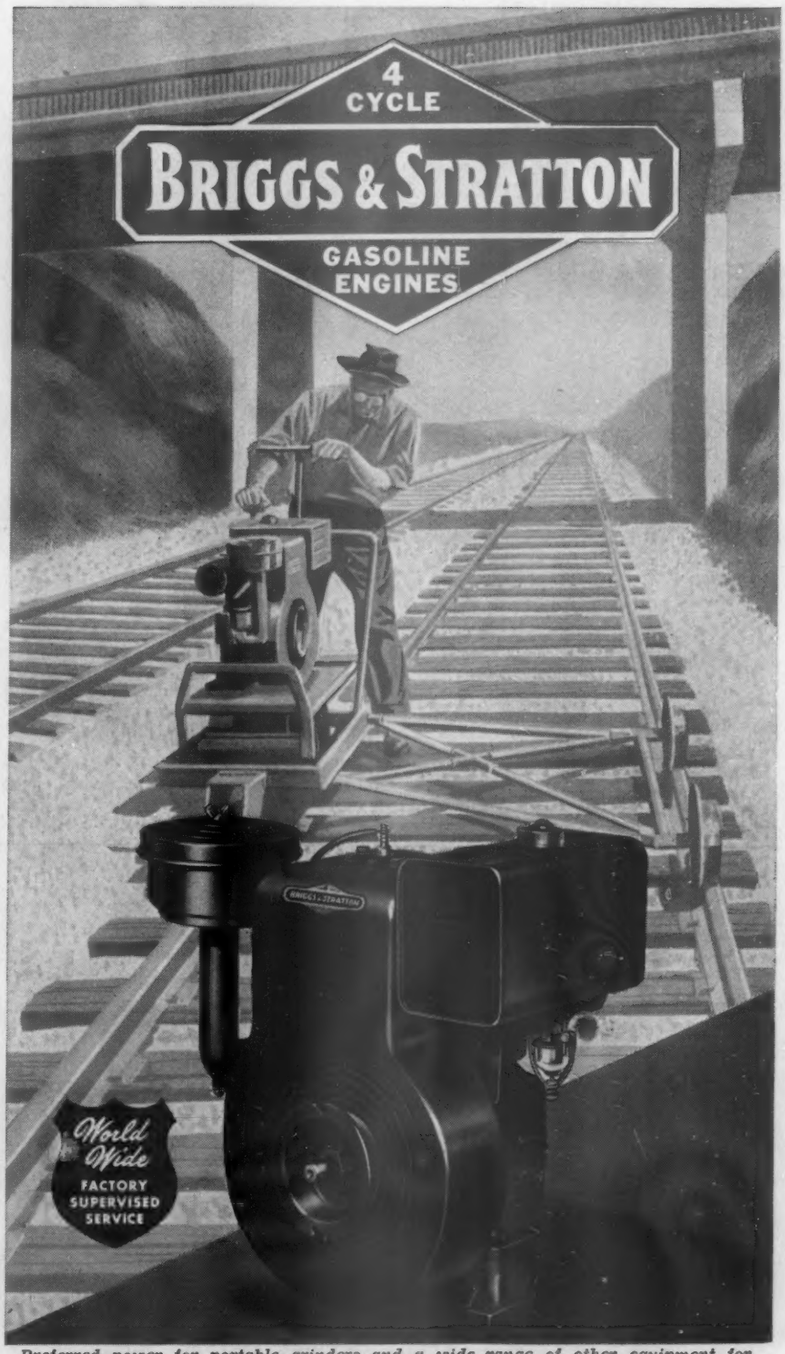
Jesse P. Patterson, assistant vice-president, freight traffic, of the NEW YORK CENTRAL SYSTEM at New York, has retired after 44 years of service. He was succeeded last December by **Arthur E. Baylis** as general freight traffic manager in direct charge of the freight traffic department. A biography and photograph of Mr. Patterson were published in the *Railway Age* of December 23, 1950, page 51.

C. J. Stephenson, who has retired as vice-president and general manager of the ST. LOUIS, SAN FRANCISCO & TEXAS at Fort Worth, Tex. (*Railway Age,* June 4), is a native of Wabash, Ind. He began service with the Frisco in July 1899 as a clerk at Springfield, Mo., subsequently held various clerical posts, and in 1920 became assistant to general manager. In 1929 he was advanced to assistant general manager, being elected vice-president and general superintendent of the Frisco's Texas lines in 1932. He was advanced to vice-president and general manager of those lines in 1948.

FINANCIAL, LEGAL & ACCOUNTING

As reported in *Railway Age* May 7, **Henry Grady White** has been appointed auditor of disbursements of the NASHVILLE, CHATTANOOGA & ST. LOUIS at Nashville. Mr. White was born in Floyd County, Ga., on December 30, 1895, and entered railroad service with the N.C.&St.L. on August 1, 1911, serving in various clerical capacities. He subsequently became traveling auditor, centralized station accountant, special accountant and chief clerk to auditor of disbursements, successively. On January 1, 1947, Mr. White was appointed assistant auditor of disbursements, which position he held until his recent promotion. He served for one year in the United States Army during World War I.

As reported in *Railway Age* April 30, **Wirt P. Marks, Jr.,** has been elected general counsel of the RICH-



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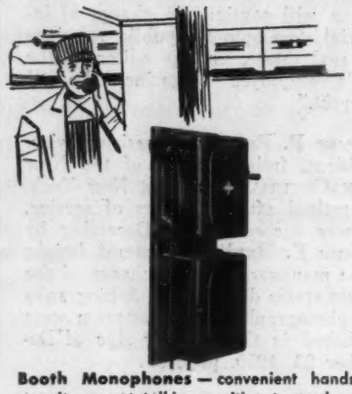

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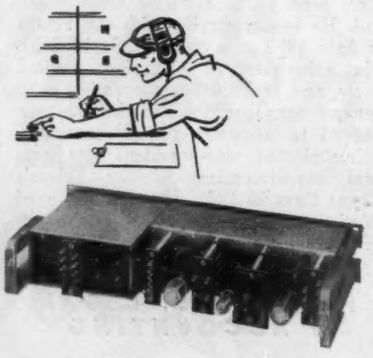

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MOND, FREDERICKSBURG & POTOMAC at Richmond, Va. Mr. Marks was born on November 4, 1893, at Garysville, Va., and received his LL.B. degree from the University of Virginia in 1917. He was associated with the firm of Hunton, Williams, Anderson, Gay & Moore

Wirt P. Marks, Jr.

of Richmond from 1917 to 1924 and has been a member of the firm since January 1, 1925. Mr. Marks entered railroad service in 1925 with the Southern as assistant to division counsel at Richmond. On April 19, 1945, he was elected assistant general counsel of the R. F. & P., which position he held until his recent election as general counsel.

As reported in *Railway Age* April 30, **E. Randolph Williams** has retired as general counsel of the RICHMOND, FREDERICKSBURG & POTOMAC at Richmond, Va., but will remain as advisory counsel. Mr. Williams was born at Richmond on May 1, 1871, and attended the University of Virginia (B.L. 1893). He began his career in

E. Randolph Williams

1893 in the general practice of law and subsequently became general counsel for the Virginia Railway & Power Co., district counsel of the Seaboard Air Line, a member of the firm of Hunton, Williams, Anderson, Gay & Moore, advisory counsel of the Vir-

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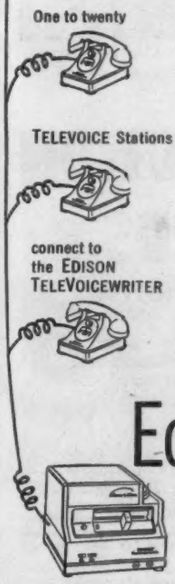

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ginia Electric & Power Co., and counsel of the Seaboard. Mr. Williams served the R.F.&P. for nearly 31 years.

Gilbert P. Strelinger has been appointed general attorney for the MISSOURI-KANSAS-TEXAS, with headquarters at St. Louis.

Edward Beecroft, secretary and treasurer of the ELGIN, JOLIET & EASTERN, has retired after 55 years of service. Elected to succeed Mr. Beecroft is **Daniel J. O'Connell,** assistant to president. Mr. Beecroft was born in Chicago on June 1, 1881, and began his career with the E.J.&E. in 1896 in the accounting department there. Later he held various positions and in 1913 was appointed assistant secretary and assistant treasurer, becoming secretary and treasurer in 1931.

E. R. Merry, Jr., secretary of the RAILWAY EXPRESS AGENCY at New York, has retired after 48 years of continuous service in the express business. **Carl A. Brannan,** secretary of the Express Contract Committee, has been appointed assistant secretary of the R.E.A. at New York. Mr. Merry was born near Falls Church, Va., and started his express career as a stenographer in the office of Thomas Collier Platt, president of the United States Express Company and also U. S. Senator from New York. Mr. Merry later became Mr. Platt's secretary and clerk of the printing records of the U. S. Senate, and subsequently held various positions with the United States Express Company and the American Express Company. With the consolidation of the express companies in 1918 into the American Railway Express Company, Mr. Merry was appointed assistant secretary of that company and in February 1924 was elected its secretary. He remained in that capacity until March 1, 1929, when he was appointed secretary of R.E.A.

OPERATING

Edwin H. O'Keefe, superintendent of the NEW YORK CENTRAL SYSTEM's Canada division, at St. Thomas, Ont., has been transferred in that capacity to the Michigan division, with headquarters at Jackson, Mich. He succeeds the late **D. B. Maltby,** whose death is announced elsewhere in this issue. **A. C. Nelson,** assistant superintendent at Cleveland, has been promoted to succeed Mr. O'Keefe, and is in turn succeeded by **A. G. Teets,** assistant superintendent at Jackson. **W. H. Shearer,** trainmaster at Detroit, moves to Jackson as Mr. Teets' successor. **J. J. Danhof, Jr.,** trainmaster at Englewood yards, Chicago, has been transferred to Erie, Pa., to succeed **T. C. Harrington,** who is retiring. **R. E. Nichols,** road foreman of engines at Kankakee, Ill., replaces Mr. Danhof, and **R. J. Gordon,** relief yardmaster at Detroit, becomes trainmaster at that point.

As reported in *Railway Age* April 23, **Thomas Edward McGinnis** has been appointed superintendent of the Allegany, Bradford, Meadville and Buffalo-Southwestern divisions of the ERIE at Salamanca, N. Y. Mr. McGinnis was born on June 8, 1908, at Youngstown, Ohio, and entered railroad service there on November 16, 1926, with the Erie as a laborer. He subsequently served as car repairer helper, assistant to car foreman, chief of the A.A.R. bureau, chief clerk in

Thomas Edward McGinnis

the car department, assistant supervisor of materials and records and inspector of operation. Mr. McGinnis was appointed trainmaster at Dunmore, Pa., on January 10, 1946, and on May 1, 1947, transferred to the Buffalo and Rochester divisions at Buffalo. He was appointed assistant superintendent of transportation at Cleveland on February 16, 1949, and became assistant superintendent of the New York division at Jersey City on December 1, 1949, which position he held until his recent promotion.

Lyle A. Soult, executive assistant —operating department, of the NEW YORK, CHICAGO & ST. LOUIS, has been appointed assistant superintendent transportation, with headquarters at Brewster, Ohio, succeeding **Walter Weiss,** who has retired after 45 years service on the Wheeling & Lake Erie and the Nickel Plate.

As reported in the May 7 *Railway Age*, **R. E. Johnson** has been promoted to general manager of the CHICAGO, ROCK ISLAND & PACIFIC, with headquarters at Des Moines, Iowa. Mr. Johnson was born at Osawatomie, Kan., November 10, 1910, and entered railroad service in July 1925 as an office boy on the Missouri Pacific. In 1936 he became secretary to the general manager of the Rock Island, subsequently serving as assistant trainmaster, trainmaster and assistant superintendent at various points. He was promoted to superintendent of the Burlington-Rock Island at Houston, Tex., in August 1943, and in June

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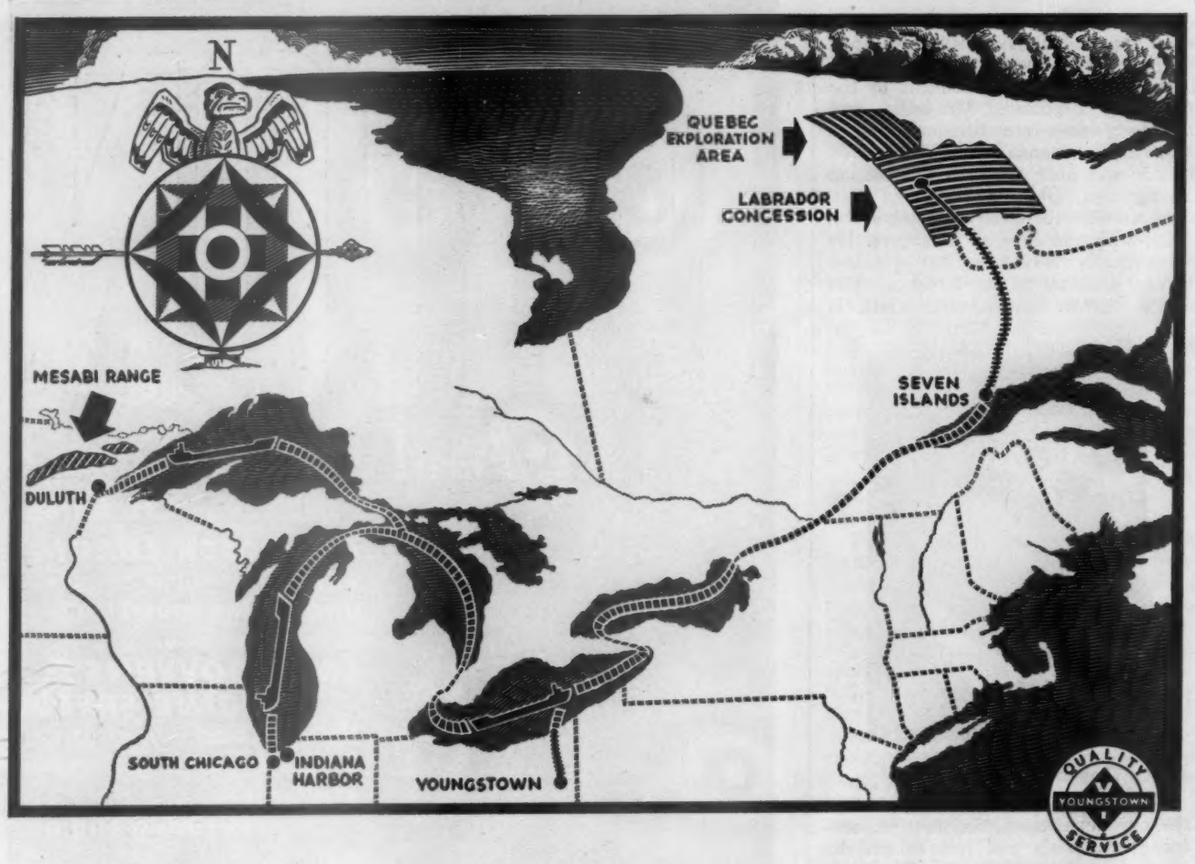

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ONE half a billion dollars may seem like pin money compared to the sums mentioned for our national finances.

But it is more than three dollars for each man, woman and child in the United States. It is more than the entire steel industry earned in the "dreadful decade" from 1930 to 1939. It's more than America spent to win two wars--the War of 1812 and the Mexican War, combined.

Approximately one half a billion dollars is the estimated sum that a group of steel and mining companies, one of which is The Youngstown Sheet and Tube Company, is investing to guarantee future iron ore supplies for America. In the Mesabi iron range of Minnesota, development projects are under way which will produce millions of tons of iron concentrates from taconite. In Labrador and Quebec, a vast deposit of high grade ore is being developed. Plans include building a 360-mile railroad into the wilderness to ore docks on the St. Lawrence River.

Where does this money come from? From an unnoticed addition to our national debt? From "extra nickels" tucked away in the Federal budget? From more taxes levied on every citizen's income? *Certainly not!* Development of these ore reserves will be financed by each participating Company asking its shareholders to share in its tremendous cost.

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1945 was appointed division superintendent of the Rock Island at Liberal, Kan., being transferred to Kansas City, Mo., in 1946. Mr. Johnson be-

R. E. Johnson

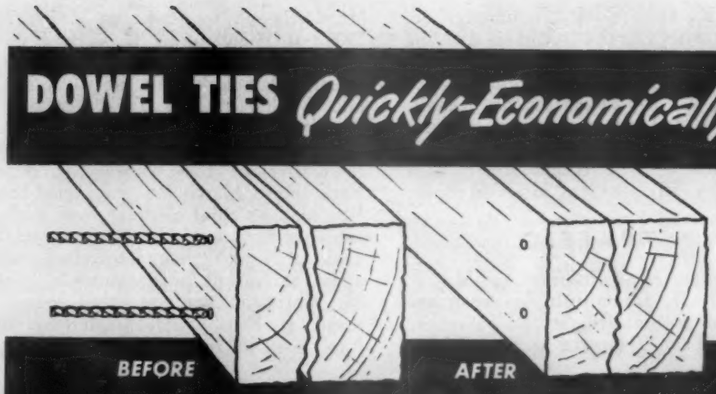
came assistant general manager in 1948, in which capacity he was serving at Des Moines at the time of his recent promotion.

J. Benton Jones, newly-appointed general manager, Western region, of the PENNSYLVANIA at Chicago (*Railway Age,* June 4), was born at Danville, Ill., March 22, 1905. Mr. Jones graduated from the University of Illinois, and started his career with the Pennsylvania in April 1927 as an assistant on the engineer corps of the Logansport division. Later he served as assistant supervisor of track, supervisor of track, division engineer, assistant superintendent freight transporta-

J. Benton Jones

tion and superintendent of the Cleveland, the Indianapolis and the New York divisions. He became general superintendent, Eastern Ohio division, at Pittsburgh, in 1946, general manager, New York zone, at New York in 1948, and general superintendent, Northwestern division, at Chicago in May 1949. Mr. Jones moved back to Pittsburgh in November 1950 as general superintendent transportation for the Central region, which position he held before his latest appointment.

DOWEL TIES *Quickly-Economically*



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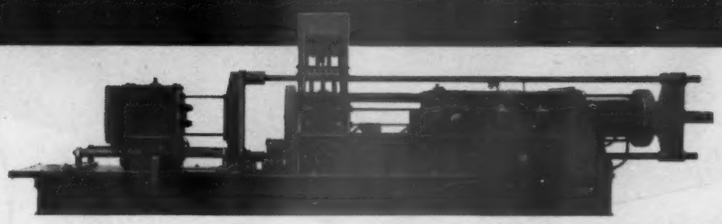
TIE DOWELLING MACHINE



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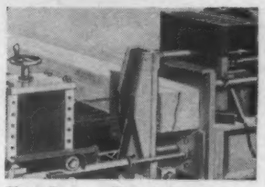
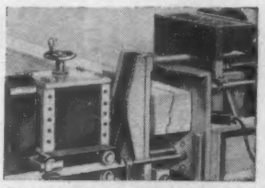
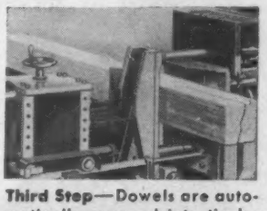


First Step—Ties are automatically fed into the machine, equalized for position and squeezed in the vise.



Second Step—Holes are automatically drilled slightly smaller than dowel size.



Third Step—Dowels are automatically screwed into tie by hydraulic pressure, completing operation. Tie is released and is then ejected by incoming tie.

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News continued on next left-hand page

R. K. Osterdock, trainmaster on the ILLINOIS CENTRAL'S Illinois division at Palestine, Ill., has been transferred to Memphis, Tenn., succeeding **A. R. Shaw,** who has become manager, mail, baggage and express service, as announced elsewhere in this issue. **F. J. Duggan,** assistant trainmaster at Gibson City, Ill., replaces Mr. Osterdock.

TRAFFIC

As reported in *Railway Age* May 7, **Joseph H. Christoph** has been appointed general freight and passenger agent of the VIRGINIAN at Norfolk, Va. Mr. Christoph was born on March 7, 1906, at Hightstown, N. J., and entered railroad service in July 1929 as stenographer-clerk with the Gulf, Mobile & Ohio at New York, becoming commercial agent the following year. In 1931 he was appointed traffic representative of the Wabash at New York and in March 1932 he joined the Virginian as chief clerk at New York, subsequently serving as commercial agent at New York and traveling coal agent at Norfolk. In September 1943 Mr. Christoph was appointed general agent at Pittsburgh, transferring to New York in July 1945, where he remained until his recent appointment as general freight and passenger agent at Norfolk.

C. J. Mundee, assistant general freight agent of the SEABOARD AIR LINE, has been appointed assistant freight traffic manager, with headquarters as before at Miami, Fla., succeeding **F. G. Roberts,** who has retired from active duty after nearly 44 years of service with this road. Mr. Roberts was born at Swainsboro, Ga., on May 22, 1881, and entered railroad service in August 1900 as office boy with the Central of Georgia at Guyton, Ga., subsequently serving as agent. He joined the Seaboard in 1901 as agent-operator and two years later became operator-clerk of the Macon, Dublin & Savannah, subsequently serving as rate clerk with the Southern. Since 1908 Mr. Roberts has been continuously with the Seaboard, as rate clerk, traveling freight agent, commercial agent, district freight agent, division freight agent, assistant general freight agent and assistant freight traffic manager. He was appointed to the latter position in 1943.

Ira S. Auch, assistant freight traffic manager of the LEHIGH VALLEY at New York, has retired after a total of 34 years of service, and **Ira F. Kurtz,** coal freight agent at New York, has retired after 49 years of service. **W. F. Lins, Jr.,** commercial agent, has been appointed district freight agent, with headquarters as before at St. Louis, Mo., succeeding **R. W. Hughes,** who has retired after 31 years of service with the L.V.

Mr. Auch was born at Chalfont, Pa., and entered railroad service with the Philadelphia & Reading (now Reading) as clerk in the freight claim department in 1899. FROM 1906 to 1909 he was soliciting freight agent of the L.V., later returning to the Reading as assistant chief clerk in the general freight office. Mr. Auch then served the Erie as general agent and traffic agent, resigning in 1920 to become general manager of the Nazareth Traffic Bureau at South Bethlehem, Pa. Later that year he became district freight agent of the L.V. at Philadelphia, subsequently serving successively as assistant general freight agent and general freight traffic agent at Buffalo, and general freight agent and assistant freight traffic manager at New York. Mr. Auch was appointed to the latter position in 1946.

G. O. Thoresen, general freight agent of the GRAND TRUNK WESTERN-CANADIAN NATIONAL at Detroit, has been appointed assistant freight traffic manager, succeeding **D. M. Crawford,** who has retired after 46 years of service. **M. A. O'Brien,** division freight agent at Grand Rapids, Mich., succeeds Mr. Thoresen. Biographical sketches of Messrs. Thoresen and Crawford appeared in the April 9 *Railway Age* at the time of their appointments as general freight agent and as-

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sistant freight traffic manager. Mr. O'Brien began his railroad career in the operating department of the Grand Trunk in 1917. He was appointed secretary to the freight traffic manager at Chicago in 1922 and became a freight traffic representative there in 1928. Since 1945 he has been division freight agent at Grand Rapids.

W. T. Minor, assistant general freight and passenger agent of the St. Louis, San Francisco & Texas at Fort Worth, Tex., has been appointed general freight agent. Mr. Minor entered railroad service in February 1907 as a switchman on the Southern, and joined the St. Louis-San Francisco as a yard clerk at Memphis in 1909. Subsequently he left the Frisco to serve with other roads, but in 1928 returned as chief clerk to the traffic manager, being appointed assistant general freight and passenger agent in 1938.

J. W. Rada, manager, mail, baggage and express service of the Illinois Central, has retired after 38 years with that road. He is succeeded by **A. R. Shaw,** trainmaster at Memphis.

L. J. Ward, commercial agent of the Central of Georgia, has been appointed general agent, with headquarters as before at Winston-Salem, N. C. **J. Q. Brantley** has been appointed general agent at Tampa, Fla.

W. J. Luchsinger has been appointed to the newly created post of Eastern freight traffic manager of the Northern Pacific at New York, as announced in *Railway Age* April 23. Mr. Luchsinger, a native of Fargo, N. D., has been with the N.P. continuously since 1916 except for army service in World War I. He was assistant general freight agent at St. Paul before going to Duluth in 1942 as assistant general freight and passenger agent, which position he held at the time of his recent appointment.

W. J. Luchsinger

William P. Dahl, industrial agent of the Atchison, Topeka & Santa Fe at Topeka, Kan., has been appointed to a similar post on the Gulf, Colorado & Santa Fe at Galveston, Tex., succeeding **George W. Cox,** who has been appointed assistant to president at Chicago, as reported elsewhere in this issue.

Victor A. Gust, general traffic agent of the New York, New Haven & Hartford, has been appointed western traffic manager in charge of the Chicago and St. Louis traffic agencies. His headquarters remain at Chicago. **James F. Wallace,** district traffic agent at St. Louis, succeeds Mr. Gust. **William A. McGinnitey,** traffic representative, has been appointed district traffic agent, with headquarters as before at St. Louis. **Joseph F. Carroll, Jr.,** district traffic agent, has been appointed general traffic agent, with headquarters as before at San Francisco.

Frank Lewis Sturges, who has retired as general passenger agent of the Atchison, Topeka & Santa Fe at Topeka, Kan., as announced in the May 14 *Railway Age*, was born at Florence, Kan., April 11, 1881. Mr. Sturges started with the Santa Fe in October 1895 as a messenger in the car service department at Topeka. Subsequently he was assigned to various clerical

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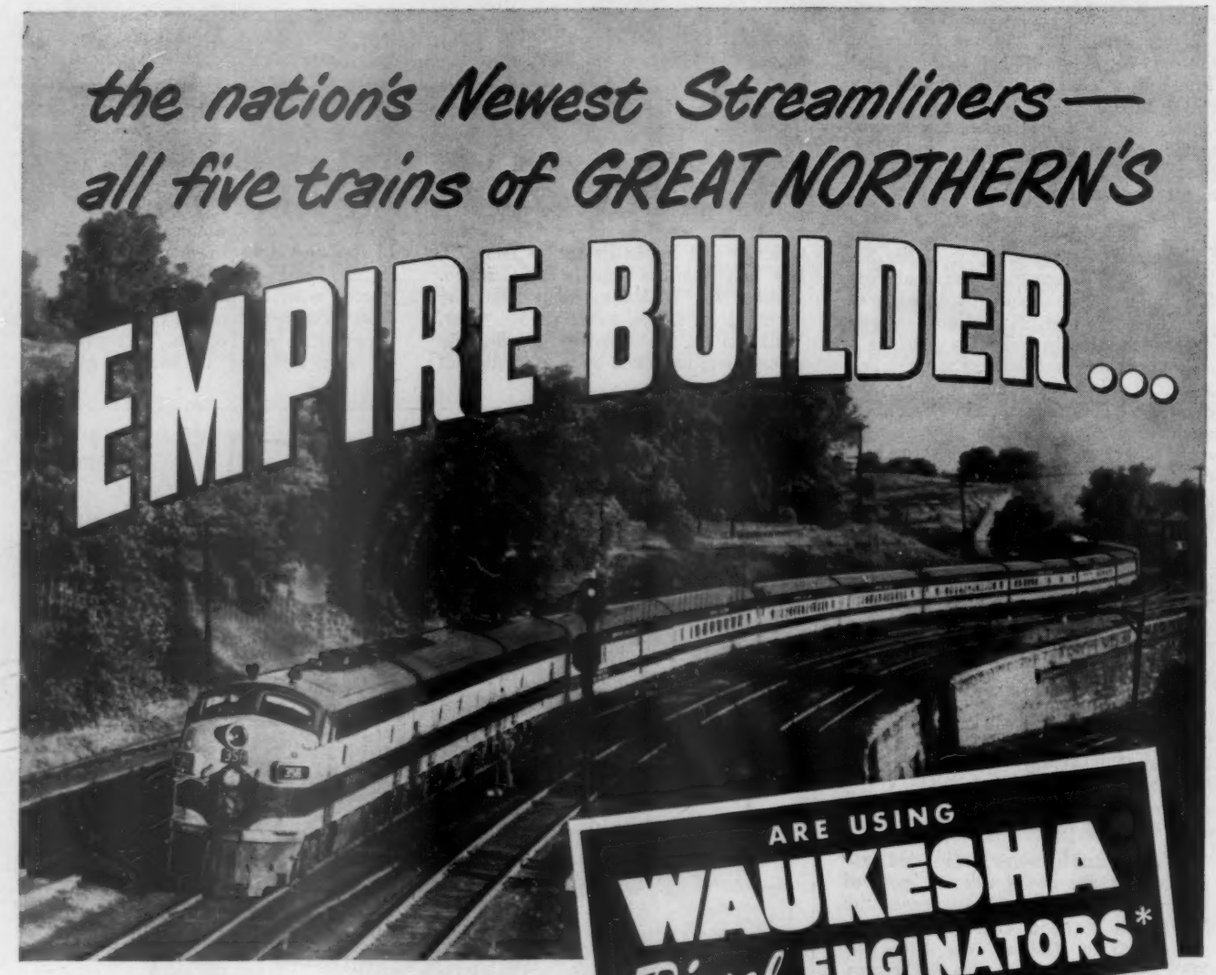

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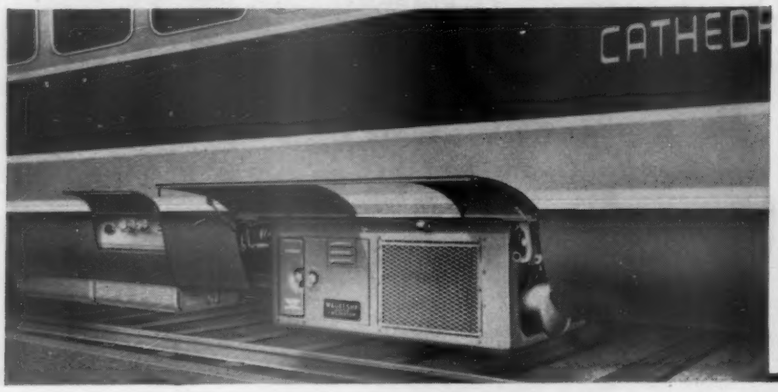

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posts at Topeka and at Kansas City until May 1926, when he was advanced to assistant general passenger agent at the former point. He became general passenger agent in April 1946.

G. F. Smith, chairman of the Canadian Freight Association, has been appointed assistant freight traffic manager (rates) of the Canadian lines of the CANADIAN NATIONAL. Mr. Smith, a native of Cannington, Ont., started his railway career in 1911 in the freight department of the C.N. at Toronto. He was appointed chairman of the Canadian Freight Association in March 1948.

MECHANICAL

W. D. Dickie, assistant works manager, locomotive, of the Angus shops of the CANADIAN PACIFIC at Montreal, has been appointed works manager, succeeding **Henry Redmore Naylor,** who has retired on pension after more than half a century of railroad service.

Formation of a diesel department to bring under one head diesel inspection and repair on the ST. LOUIS-SAN FRANCISCO has been announced by **R. J. Stone,** vice-president—operation. In charge of the new department, which will be headquartered at Springfield, Mo., is **F. G. Baker,** formerly assistant superintendent of motive power. Assisting Mr. Baker is a general supervisor of diesel maintenance, while diesel supervisors—all newly-created posts—have been assigned to each of the road's seven divisions under supervision of the master mechanic on each division. Under the new department an intensified educational program will be inaugurated to train mechanics at each of the Frisco's diesel shops. Crew instruction will be conducted over the system through a special school car.

F. E. Molloy, assistant superintendent motive power of the SOUTHERN PACIFIC, has been promoted to superintendent motive power at the Sacramento general shops. He succeeds **F. E. Russell,** who has gone to Washington, D. C., on special assignment as consultant to serve as chief of the roadway, equipment and manpower branch of the Railroad Division, Defense Transportation Administration. Succeeding Mr. Molloy is **William O. Brown,** master mechanic at Brooklyn, Ore. Mr. Molloy started service with the S. P. as a machinist at Douglas, Ariz., in 1925 after 12 years' service with other roads. Later he held various positions, including general roundhouse foreman and master mechanic. In 1942 he became assistant superintendent motive power at Los Angeles, being transferred to Sacramento in the same position in 1944.

Mr. Brown began his S. P. career as a machinist apprentice on the Texas & New Orleans at Houston in 1934. Subsequently he advanced through various posts in the mechanical depart-

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ment, and in 1946 became master mechanic at Dunsmuir, Cal. Two years later he was transferred to Brooklyn in the same capacity.

ENGINEERING AND SIGNALING

As reported in the *Railway Age* of April 16, **H. C. Cosand** has been appointed assistant chief engineer of the DENVER & RIO GRANDE WESTERN at Denver, Colo., in addition to his duties as engineer of capital expenditures. Mr. Cosand started with the Rio

H. C. Cosand

Grande in April 1917 as office engineer at Denver. He was appointed assistant engineer in 1917 and in 1923 became division engineer at Grand Junction, Colo., which post he later held at Salt Lake City, Utah. He has been serving as engineer of capital expenditures since April 1941.

As reported in *Railway Age* April 16, **John Ayer, Jr.,** has been appointed chief engineer of the DENVER & RIO GRANDE WESTERN at Denver, Colo. Mr. Ayer was born on Oc-

John Ayer, Jr.

tober 6, 1912, and upon graduation from Massachusetts Institute of Technology, in electrical engineering, entered railroad service with the Pennsylvania in August 1936 as a signal apprentice at Chicago. He was furloughed in June 1938 on account of force reduction and the following October joined the Rio Grande as signal inspector at Denver. Later he served as signal supervisor, assistant signal engineer and assistant engineer of capital expenditures, becoming assistant chief engineer in October 1949.

R. C. Baker, who has been promoted to engineer of structures of the CHICAGO & EASTERN ILLINOIS at Danville, Ill., as announced in the May 7 *Railway Age*, entered the service of the C. & E.I. in December 1925, and was employed as yard fireman and assistant on engineering corps while taking a cooperative engineering course

R. C. Baker

at Evansville College. He was transferred to the engineering department at Danville in 1928 as assistant on engineering corps. Later he served as bridge inspector, supervisor of scales and assistant engineer. In September 1941 he became supervisor of bridges and buildings, from which position he was promoted.

R. W. Schmidt, who has succeeded the retired **Hollis Marsh** as chief engineer of the MANUFACTURERS and the ST. LOUIS & O'FALLON at St. Louis (*Railway Age*, June 4) was born in that city on November 19, 1907. A mechanical engineering graduate of Washington University, Mr. Schmidt started service with the two roads in September 1949 as assistant chief engineer, which position he held prior to his recent promotion.

Mr. Marsh was born on October 23, 1889, at Kansas City, Kan., attended Kansas University, and joined the Manufacturers and the St. L. & O'F. in June 1914. He continued to serve the two roads up until the time of his retirement as chief engineer.

T. L. Pidcock, division engineer of the UNION PACIFIC's Wyoming division, at Cheyenne, has been promoted to assistant to chief engineer, with headquarters at Omaha. He is succeeded by **J. W. Godfrey,** acting division engineer on the Utah division at

Salt Lake City. **C. E. McCauley,** office engineer under the chief engineer at Omaha, replaces Mr. Godfrey.

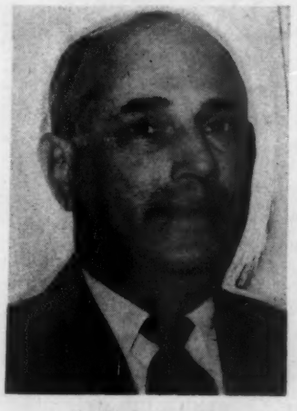
R. O. Johnson, telegraph and telephone supervisor of the MISSOURI-KANSAS-TEXAS LINES, has been appointed acting superintendent of communications during the illness of **H. Krattiger,** superintendent of communications. Mr. Johnson's headquarters remain at Denison, Tex.

PURCHASES & STORES

G. R. Merryman, general storekeeper of the CENTRAL OF NEW JERSEY at Elizabethport, N. J., has been appointed purchasing agent of the JERSEY CENTRAL LINES and the NEW YORK & LONG BRANCH at New York, succeeding **E. A. Workman,** deceased.

As reported in the June 4 *Railway Age*, **A. J. Sowatsky** has been promoted to assistant general storekeeper, Pere Marquette district, of the CHESAPEAKE & OHIO, at Grand Rapids, Mich. Mr. Sowatsky was born January 19, 1895, at Saginaw, Mich., and entered railroad service in December 1919 with the Pere Marquette, holding various positions in the accounting department until 1931, when he was transferred to the stores department. He became division storekeeper at Saginaw in May 1950, in which capacity he served until his present promotion.

As reported in the June 4 *Railway Age*, **R. B. Rosenstein** has been promoted to general storekeeper of the ST. LOUIS SOUTHWESTERN at Tyler, Tex. Mr. Rosenstein is a native of Tyler, where he entered Cotton Belt service in 1917 as an apprentice clerk in the



R. B. Rosenstein

accounting department. The following year he was transferred to the stores department, and, after advancing through various positions, in 1930 he became chief clerk to the general storekeeper, from which post he was recently promoted.

H. P. Paar has been appointed division storekeeper, Pere Marquette district, of the CHESAPEAKE & OHIO, at Saginaw, Mich. **H. E. Peckover,** assistant general storekeeper at Grand Rapids, Mich., becomes stationery storekeeper there.

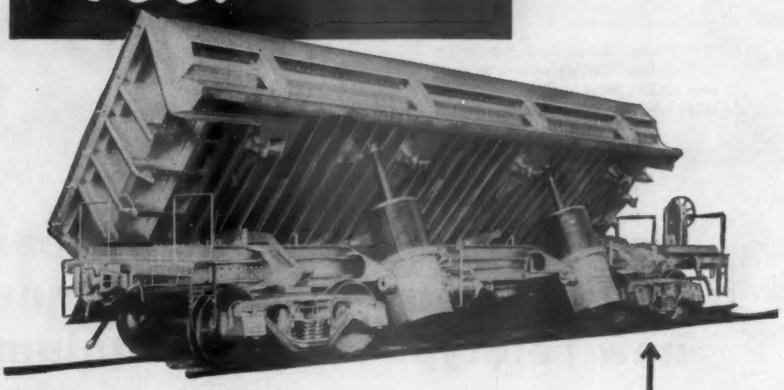
William A. Gibbs, statistician in the accounting department of the RICHMOND, FREDERICKSBURG & POTOMAC, has been appointed assistant purchasing agent at Richmond, Va. Mr. Gibbs was born at Richmond on September 24, 1903, and entered railroad service on August 1, 1920, serving in various capacities in the transportation and accounting departments. Mr. Gibbs served as editor of the "R. F. & P. News" during the years 1936-1940.

OBITUARY

D. B. Maltby, superintendent of the NEW YORK CENTRAL's Michigan division, at Jackson, Mich., died recently.

George A. Voelkner, general manager of the CHICAGO & WESTERN INDIANA and the BELT OF CHICAGO died on May 26 in a Chattanooga (Tenn.) hospital. Mr. Voelkner became ill while on a train enroute from Miami to Chicago.

BOOSTS EARNINGS TOO!



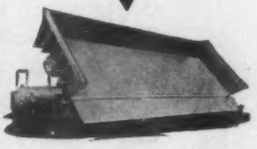
The Differential Air Dump Car has a way with operating expenses — cuts 'em down!

There's another pair of massive muscles on the other side of the car, too, means two-way dumping and greater flexibility.

They're built to take rough treatment — whether it's the slam-banging of the clam or the sudden dumping of tons of hot slag. These cars can take it and can come back faster for more.

Higher ratio of payload to dead weight! Fewer trips to the shop and shorter stays when they do go! Add all these up and it spells lower operating costs — another way to say "Boosted Earnings". Write for the full story on these cars.

DUMPS BOTH WAYS

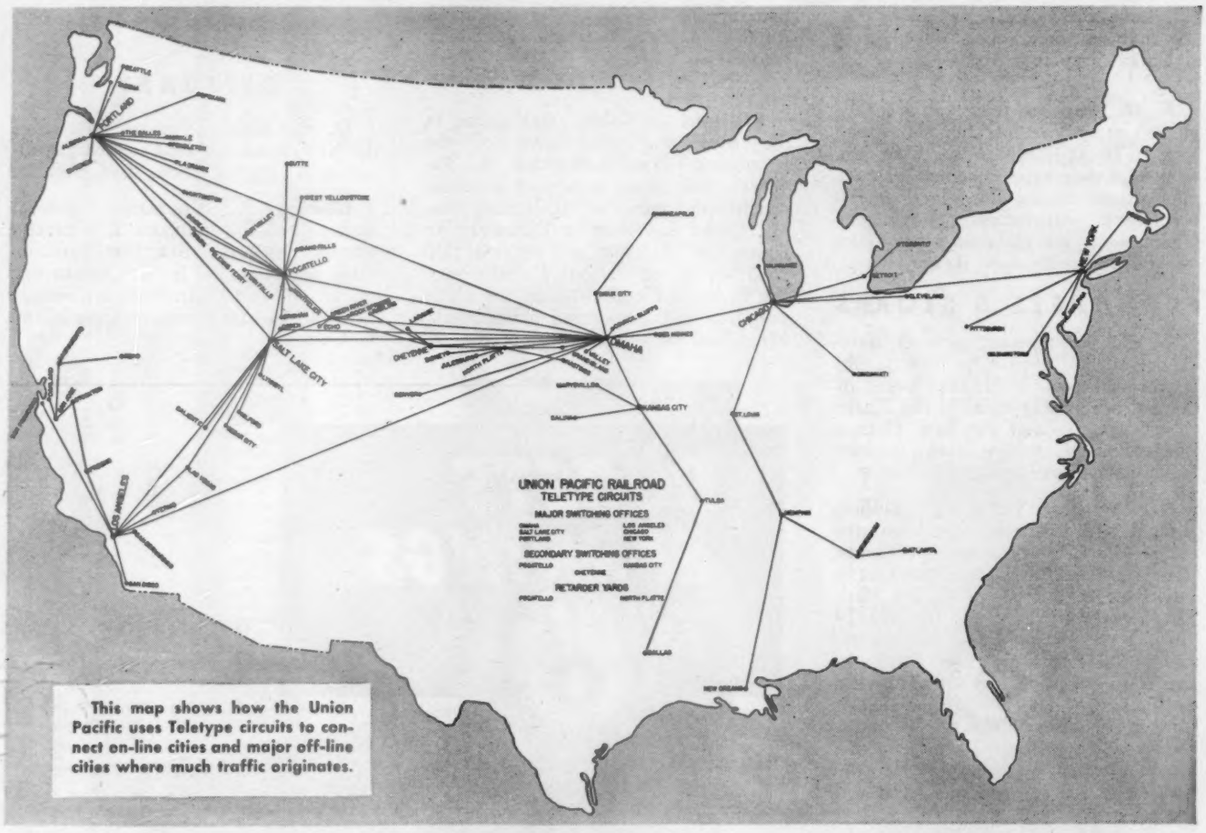


Other Differential Products: Locomotives, Mine Cars, Mine Supply Cars, Rock Larries, Mantrip Cars, Dumping Devices and Complete Haulage Systems.

DIFFERENTIAL STEEL CAR COMPANY

FINDLAY, OHIO

SINCE 1915 — PIONEERS IN HAULAGE EQUIPMENT



This map shows how the Union Pacific uses Teletype circuits to connect on-line cities and major off-line cities where much traffic originates.

How the Union Pacific increased the speed and efficiency of its Communications with new Teletype relaying equipment...

The Union Pacific operates approximately 42,000 miles of Teletype circuits—36,000 miles of on-line circuits and 6,000 miles to off-line points. In addition to general message traffic, this Teletype system handles block reports, manifest reports, set-out and pickup reports, passing reports, diversion orders and reports (as many as 1200 per day out of the Omaha office), space reservation messages, switch lists, and miscellaneous reports pertaining to general operations.

That this large volume of Teletype traffic is handled speedily and efficiently today is due in part to changes made about twenty-four months ago in relaying methods. Relaying is now semi-automatic in General Communication Offices in fifteen cities.

To achieve this, two duplex circuits were set up between the offices. Page printers for messages to be delivered locally were used and typing reperforators (which print and reperforate tape messages) were installed for relaying purposes. Thus, today, messages to be relayed are received in tape and quickly inserted into transmitters close by. Over two hundred printers and approximately one hundred reperforators are in use in the system.

To learn the full story of how the Union Pacific streamlined its coast-to-coast Teletype network and achieved greater speed and efficiency in message transmission just write for the booklet, "We wanted to improve our relaying operations." The booklet is available from:

TELETYPE CORPORATION
1400 Wrightwood Ave., Chicago 14, Illinois

TELETYPE
REG. U. S. PAT. OFF.
CORPORATION
SUBSIDIARY OF
Western Electric Company
INCORPORATED

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Akron, Canton & Youngstown	March	171	474,515	52	491,739	67,058	44,263	31,524	141,700	315,818	64.2	175,921	77,019	81,818	74,276
	3 mos.	171	1,322,030	202	1,371,568	193,370	131,719	97,396	410,130	921,158	67.2	450,410	201,634	211,084	179,041
Atchison, Topeka & Santa Fe System	March	13,096	42,845,227	3,725,941	50,015,523	6,914,899	9,571,395	1,113,417	15,761,545	35,213,521	70.4	14,802,002	8,666,439	6,256,920	5,987,498
	3 mos.	13,096	114,453,257	11,510,653	136,470,287	18,777,316	26,111,528	3,396,008	44,553,182	98,348,272	72.1	38,122,015	22,250,326	16,094,692	14,026,966
Atlanta & St. Andrews Bay	March	82	272,151	2,046	282,233	37,720	18,858	7,911	58,942	139,567	49.5	142,666	75,503	41,279	58,602
	3 mos.	82	850,116	5,947	877,415	103,220	60,710	23,144	176,091	406,653	46.3	470,762	249,744	138,372	148,366
Atlanta & West Point	March	93	302,010	51,392	398,130	55,958	54,609	15,639	169,355	320,388	80.5	77,742	40,617	19,979	16,265
	3 mos.	93	867,863	153,860	1,145,748	144,642	159,525	45,859	495,514	918,790	80.2	226,958	115,760	48,316	11,473
Western of Alabama	March	133	332,236	49,900	416,848	67,335	59,093	16,078	141,583	306,162	73.4	110,686	58,916	46,419	17,050
	3 mos.	133	964,374	151,659	1,206,487	188,481	173,290	46,609	432,597	908,878	75.3	297,609	159,694	114,390	70,538
Atlantic & Danville	March	205	154,428	.....	157,510	28,000	7,971	9,620	59,256	117,356	74.5	40,154	10,798	14,857	21,935
	3 mos.	205	440,060	.....	450,667	84,000	24,706	29,624	155,431	329,540	73.1	121,127	32,257	45,274	24,486
Atlantic Coast Line	March	5,453	11,359,723	2,216,848	14,686,479	3,431,881	2,863,181	338,173	5,360,463	12,638,921	86.1	2,047,558	1,175,000	523,465	1,207,432
	3 mos.	5,452	32,682,732	6,417,453	42,140,591	9,521,162	7,664,385	1,011,689	15,447,703	35,525,264	84.3	6,615,327	3,825,000	1,516,654	3,590,049
Charleston & Western Carolina	March	343	534,089	9,528	558,304	141,295	87,464	16,224	168,560	425,410	76.2	132,894	60,000	62,456	73,304
	3 mos.	343	1,498,182	30,505	1,568,395	374,710	226,138	48,443	465,525	1,146,464	73.1	421,931	200,000	204,929	149,310
Baltimore & Ohio	March	6,188	34,661,457	1,962,392	38,671,623	4,934,719	8,800,771	818,153	15,544,368	31,534,864	81.6	7,136,759	2,919,064	3,319,617	3,033,545
	3 mos.	6,188	93,502,380	5,941,426	105,182,628	12,795,331	24,295,024	2,389,582	44,125,015	87,892,725	83.6	17,289,903	6,962,526	7,941,114	5,314,246
Staten Island Rapid Transit	March	29	259,433	46,327	299,385	58,207	36,215	1,261	158,301	286,940	95.8	12,445	35,890	—38,319	—56,545
	3 mos.	29	720,132	138,499	871,252	151,681	109,512	3,849	438,434	794,368	91.2	76,884	107,677	—75,945	—160,115
Bangor & Aroostook	March	602	1,203,085	35,643	1,278,564	186,015	178,550	13,480	278,817	717,312	56.1	561,252	253,453	214,892	470,634
	3 mos.	602	3,029,268	109,271	3,246,538	522,645	481,820	39,630	821,596	2,040,277	62.8	1,206,261	570,978	489,043	928,513
Bessemer & Lake Erie	March	212	1,652,406	962	1,679,438	183,891	363,762	17,316	472,005	1,119,297	66.6	560,141	310,376	537,149	—46,111
	3 mos.	212	4,285,075	2,584	4,357,689	504,553	1,735,623	55,087	1,323,137	3,862,270	88.6	495,419	750,570	677,942	—27,371
Boston & Maine	March	1,702	6,013,651	866,562	7,564,410	1,217,407	1,272,257	119,855	3,278,337	6,212,919	82.1	1,351,491	585,425	379,254	368,129
	3 mos.	1,702	17,016,485	2,809,676	21,749,471	3,604,912	3,615,685	323,943	9,518,885	18,028,510	82.9	3,720,961	1,888,791	702,014	531,844
Cambria & Indiana	March	35	163,382	.....	163,417	12,595	83,892	115	26,725	132,040	80.8	31,377	81,258	73,650	65,105
	3 mos.	35	455,835	.....	455,939	34,298	250,869	439	80,543	396,904	87.1	59,035	221,257	199,176	50,562
Canadian Pacific Lines in Maine	March	234	735,404	37,811	796,881	84,545	113,149	6,756	276,204	492,657	61.8	304,224	28,707	201,520	81,841
	3 mos.	234	2,115,511	131,565	2,322,383	256,158	295,191	20,939	779,272	1,388,724	59.8	933,659	83,997	612,891	275,651
Canadian Pacific Lines in Vermont	March	90	165,230	13,668	196,223	54,550	27,893	5,629	127,594	222,506	113.4	—26,283	11,945	—98,156	—84,055
	3 mos.	90	553,471	40,958	648,579	143,779	86,958	17,261	340,802	610,589	94.1	37,990	35,016	—164,753	—213,530
Central of Georgia	March	1,815	3,498,187	242,569	4,024,601	846,490	655,213	113,444	1,646,906	3,444,325	85.6	580,276	353,215	113,986	278,933
	3 mos.	1,815	9,704,440	782,634	11,285,208	2,044,818	1,846,419	348,587	4,759,584	9,546,787	84.6	1,738,421	996,742	439,755	235,989
Central of New Jersey	March	410	2,946,411	445,987	3,635,120	454,384	693,403	55,943	1,914,596	3,272,689	90.0	362,431	407,074	—401,450	—419,496
	3 mos.	410	8,425,528	1,345,807	10,500,050	1,405,707	1,949,635	161,541	5,581,652	9,587,959	91.3	912,091	1,189,462	—1,382,122	—1,275,032
Central of Pennsylvania	March	210	1,502,743	6,465	1,547,301	148,889	377,550	25,080	505,446	1,097,565	70.9	449,736	79,007	655,827	952,159
	3 mos.	210	4,437,600	22,545	4,564,309	480,854	1,216,044	73,633	1,505,638	3,399,737	74.5	1,164,572	208,666	1,831,330	2,006,094
Central of Vermont	March	422	900,000	57,000	1,011,000	147,207	144,941	15,291	400,784	750,906	74.3	260,094	44,096	173,329	5,469
	3 mos.	422	2,379,000	158,000	2,700,000	415,464	463,851	44,940	1,172,211	2,217,043	82.1	482,957	139,878	184,990	—52,376
Chesapeake & Ohio	March	5,116	27,908,908	771,066	29,796,086	3,913,366	5,803,104	544,370	10,333,817	21,786,665	73.1	8,009,421	4,881,460	3,653,853	5,539,455
	3 mos.	5,116	77,588,154	2,096,050	82,662,235	11,173,643	15,875,552	1,641,140	28,920,012	60,984,052	73.8	21,678,183	13,662,051	9,627,785	5,303,625
Chicago & Eastern Illinois	March	886	2,323,607	250,950	2,846,159	356,182	398,183	106,979	1,097,428	2,100,917	73.8	745,242	293,000	296,707	397,452
	3 mos.	886	6,657,184	789,382	8,202,271	1,042,788	1,208,457	326,691	3,122,250	6,139,084	74.8	2,063,187	806,700	825,929	576,553
Chicago & Illinois Midland	March	130	793,350	253	808,184	100,462	164,637	25,054	229,088	557,807	69.0	250,377	123,538	110,969	398,065
	3 mos.	130	2,266,518	636	2,313,901	296,978	465,925	86,262	641,593	1,599,702	69.1	714,199	342,872	326,096	232,769
Chicago & North Western	March	7,923	13,087,002	1,691,070	16,546,270	2,676,827	3,239,852	312,162	8,045,656	15,088,965	91.2	1,457,305	1,062,281	—114,342	—207,160
	3 mos.	7,923	35,995,173	5,053,336	46,101,795	6,873,378	9,187,658	940,855	22,978,756	42,320,878	91.8	3,780,917	3,139,557	—613,030	—1,715,777
Chicago, Burlington & Quincy	March	8,822	20,034,421	1,362,941	23,377,600	2,512,353	3,240,520	420,543	8,091,132	15,027,455	64.3	8,350,145	3,894,944	3,743,306	2,685,378
	3 mos.	8,822	55,095,357	3,918,309	64,571,648	6,613,273	9,499,393	1,247,616	23,443,527	42,984,371	66.6	21,590,277	10,450,808	9,366,951	5,815,751
Chicago Great Western	March	1,474	2,682,106	32,160	2,900,162	462,968	441,450	101,941	1,022,036	2,119,352	73.1	780,810	240,049	184,872	292,925
	3 mos.	1,474	7,887,409	87,336	8,500,075	1,276,274	1,182,042	301,778	2,939,929	5,931,731	69.8	2,568,344	755,423	796,884	893,654
Chicago, Indianapolis & Louisville	March	541	1,707,102	76,567	1,886,592	307,876	287,058	92,369	651,115	1,445,711	76.7	440,881	166,656	150,883	199,511
	3 mos.	541	4,575,982	257,276	5,323,630	888,761	821,349	253,385	1,860,792	4,120,659	77.4	1,204,971	455,488	400,706	300,529
Chicago, Milwaukee, St. Paul & Pacific	March	10,671	18,608,643	1,427,360	22,156,079	2,642,166	4,549,537	441,556	9,960,584	18,612,295	84.0	3,543,784	1,923,000	1,045,982	1,042,983
	3 mos.	10,671	51,067,620	4,233,832	61,314,169	7,485,055	12,602,926	1,293,312	28,086,339	52,423,550	85.5	8,885,619	4,810,000	2,207,420	—981,618
Chicago, Rock Island & Pacific	March	7,925	14,327,803	1,714,169	17,431,906	2,066,792	2,861,179	483,059	6,879,062	13,113,822	75.2	4,318,084	1,952,995	1,529,704	1,851,606
	3 mos.	7,925	40,670,822	5,173,074	49,885,077	5,422,425	7,896,415	1,413,804	19,750,502	36,903,091	74.0	12,981,986	5,847,473	4,546,965	3,401,208
Chicago, St. Paul, Minn. & Omaha	March	1,617	2,155,440	186,441	2,564,029	509,859	438,924	63,927	1,536,283	2,683,572	104.7	—119,543	180,895	—469,007	—280,473
	3 mos.	1,617	6,481,778	545,270	7,638,204	1,117,946	1,290,973	184,498	4,467,452	7,436,640	97.4	201,564	540,099	—823,785	—488,498
Clinchfield	March	317	2,095,371	1,096	2,106,314	280,043	321,568	39,169	494,443	1,165,648	55.3	940,666	190,911	885,533	782,428
	3 mos.	317	6,249,647	3,829	6,285,394	778,672	952,282	115,329	1,365,994	3,309,014	52.6	2,976,380	566,911	2,815,126	1,529,087

Table continued on next right-hand page

SLEDGE HAMMER BLOWS LOOSEN THE CARGO

...BUT NOT THE FINISH!

THOSE SPOTS you see on the side of this hopper car... are actually dents pounded in the metal by sledge hammer blows freeing cargoes.

Some of them were put there nearly three years before the photograph was taken. Yet the finish, based on VINYLITE Brand Resins, is unchipped—still clinging tenaciously to the metal—maintaining its integrity and bond!

It's easy to see why finishes based on VINYLITE Resins are winning railroad friends across the country. Used on hopper, tank, or refrigerator cars, as an easily applied three-coat system, these outstanding materials are reducing car maintenance costs to a remarkable degree.

Besides absorbing terrific physical punishment in year-in, year-out service, they resist attack from weather in every climate. They are virtually unaffected by alkalies, most strong acids, oils, greases, industrial fumes, smoke, brine, and most other chemicals.

If you have not yet investigated railroad car coatings based on VINYLITE Resins, by all means do it now. They protect equipment, lower your costs, and give top operating performance. Write Dept. KB-73 for a list of formulators.

Data on "Carclad" Three-Coat System courtesy Sherwin-Williams Company, 101 Prospect Ave., N. W., Cleveland 1, Ohio

Vinylite BRAND **RESINS**

TRADE MARK

BAKELITE COMPANY
a Division of
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N.Y.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses						Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio			1951	1950
Colorado & Southern	March	739	1,129,060	83,852	1,312,195	160,374	186,098	26,693	476,477	911,691	69.5	400,504	224,752	138,652	80,675
	3 mos.	739	3,176,832	272,286	3,737,415	413,661	544,760	79,315	1,415,118	2,625,951	70.3	1,111,464	614,157	363,218	227,316
Ft. Worth & Denver City	March	804	1,568,186	140,107	1,850,788	205,479	255,876	52,436	690,374	1,290,627	69.7	560,161	188,713	215,214	192,688
	3 mos.	804	4,238,214	481,642	5,166,545	651,366	687,734	149,363	1,937,276	3,703,269	71.7	1,463,276	516,029	583,183	668,065
Colorado & Wyoming	March	41	143,126	.....	264,645	14,751	22,102	1,095	113,394	163,372	61.7	101,273	68,289	32,902	15,504
	3 mos.	41	430,484	.....	807,744	51,011	69,223	3,270	329,975	487,762	60.3	319,982	187,662	130,657	57,874
Columbus & Greenville	March	168	173,830	.....	182,079	44,679	26,493	3,705	54,079	147,737	81.1	34,342	23,507	15,289	17,399
	3 mos.	168	512,192	24	533,815	119,169	85,038	10,620	156,825	425,008	79.6	108,807	68,059	52,421	39,029
Delaware & Hudson	March	793	4,641,697	147,194	4,925,787	569,718	965,864	76,266	1,905,434	3,710,431	75.3	1,215,356	695,987	556,518	520,233
	3 mos.	793	13,653,872	470,132	14,484,988	1,557,404	2,906,767	223,262	5,559,955	10,845,678	74.9	3,639,310	2,074,380	1,687,389	1,038,818
Delaware, Lackawanna & Western	March	966	5,968,188	804,312	7,395,102	738,442	1,507,122	158,085	3,516,232	6,171,647	83.5	1,223,455	1,122,734	91,782	648,584
	3 mos.	966	17,019,829	2,447,629	21,129,753	2,131,909	4,029,450	473,443	9,939,416	17,331,328	82.0	3,798,425	2,495,914	1,232,195	1,101,647
Denver & Rio Grande Western	March	2,334	5,536,760	284,643	6,038,217	667,635	1,079,998	174,331	1,920,149	4,122,474	68.3	1,915,743	1,001,443	949,267	730,847
	3 mos.	2,352	16,255,484	841,754	17,732,020	1,720,054	3,312,465	485,097	5,855,992	12,161,085	68.6	5,570,935	2,881,875	2,755,002	1,362,605
Detroit & Mackinac	March	232	200,055	308	209,211	39,775	22,021	3,637	38,466	112,689	53.9	96,522	58,574	33,757	29,044
	3 mos.	232	484,933	958	507,934	120,000	61,853	8,804	108,847	325,689	64.1	182,245	111,068	64,807	70,600
Detroit & Toledo Shore Line	March	50	723,020	.....	725,662	76,050	60,599	14,564	207,522	370,548	...	355,114	149,703	91,926	148,479
	3 mos.	50	2,083,624	.....	2,093,579	220,007	165,597	40,933	619,651	1,082,433	...	1,011,146	435,620	255,670	325,976
Detroit, Toledo & Ironton	March	464	1,672,268	405	1,739,870	210,900	314,760	27,261	449,074	1,045,145	60.1	694,725	345,863	293,633	334,163
	3 mos.	464	5,014,266	1,125	5,208,504	541,481	780,608	81,098	1,331,176	2,877,125	55.2	2,331,379	1,207,995	965,207	859,769
Duluth, Missabe & Iron Range	March	565	312,948	1,355	350,743	742,814	797,717	9,199	737,256	2,359,130	672.6	—2,008,387	96,602	—1,931,330	—1,419,992
	3 mos.	565	1,574,125	4,134	1,694,647	1,870,553	2,138,912	26,009	2,092,952	6,358,051	375.2	—4,663,404	274,175	—4,628,909	—4,358,800
Duluth, South Shore & Atlantic	March	539	603,826	6,791	633,276	103,475	108,761	20,532	256,263	506,585	80.0	126,691	26,344	17,801	16,433
	3 mos.	539	1,833,743	22,252	1,921,751	287,466	333,674	60,830	814,054	1,548,062	80.6	373,689	77,465	158,641	—11,412
Duluth, Winnipeg & Pacific	March	175	554,000	900	561,500	74,416	75,438	4,490	209,322	370,481	66.0	191,019	40,298	81,627	16,917
	3 mos.	175	1,393,000	2,200	1,412,800	185,680	194,416	13,185	585,998	998,219	71.4	414,581	104,077	134,942	—66,257
Elgin, Joliet & Eastern	March	238	3,741,203	.....	4,602,262	418,526	768,859	31,203	1,653,232	3,015,084	65.5	1,587,178	754,134	219,163	803,727
	3 mos.	238	10,255,319	3	12,919,615	1,096,373	1,976,777	92,114	4,684,077	8,271,284	64.0	4,648,331	2,149,898	862,523	2,048,727
Erie	March	2,245	13,803,748	576,835	15,398,474	1,585,725	2,225,725	344,657	6,270,305	11,089,929	72.0	4,308,545	1,985,933	1,745,426	1,598,028
	3 mos.	2,245	39,130,228	1,765,936	43,633,554	4,569,551	6,557,803	1,044,276	17,962,945	32,121,884	73.6	11,511,670	5,391,014	4,658,872	3,413,380
Florida East Coast	March	571	2,238,025	798,822	3,347,010	343,095	535,619	75,093	1,248,951	2,402,255	71.8	944,755	285,060	495,318	584,167
	3 mos.	571	5,835,688	2,591,523	9,283,855	1,040,809	1,375,020	206,769	3,258,625	6,446,374	69.4	2,837,481	845,687	1,497,789	1,590,077
Georgia Railroad	March	326	709,416	55,559	819,429	126,683	120,109	32,186	315,186	627,565	76.6	191,864	37,673	171,750	126,096
	3 mos.	326	2,065,709	197,042	2,407,639	348,688	367,181	91,146	923,609	1,837,730	76.3	569,909	108,558	491,863	209,041
Georgia & Florida	March	359	294,314	10	300,601	80,403	32,758	17,825	91,468	235,104	78.2	65,497	16,572	23,956	—30,827
	3 mos.	359	861,812	34	878,107	242,556	97,031	53,769	261,016	691,773	78.8	186,334	48,725	68,136	—78,423
Grand Trunk Western	March	974	5,121,000	176,000	5,789,000	611,047	920,840	69,790	2,426,564	4,192,242	72.4	1,596,758	271,633	1,127,526	918,326
	3 mos.	974	13,210,000	612,000	15,078,000	1,671,054	2,612,958	205,300	6,427,078	11,404,686	75.6	3,673,314	792,449	2,263,579	1,074,781
Canadian Natl. Lines in New Engl.	March	172	215,000	6,000	250,000	52,002	47,782	2,730	126,475	242,739	97.1	7,261	22,746	—55,745	—105,774
	3 mos.	172	580,000	20,000	726,000	146,703	138,308	8,119	403,031	741,752	102.2	—15,752	68,238	—205,025	—298,777
Great Northern	March	8,316	13,734,576	1,024,669	15,910,553	3,282,296	3,456,402	345,534	6,947,490	14,766,162	92.8	1,144,391	1,472,291	—315,071	57,365
	3 mos.	8,316	39,697,352	2,918,758	45,816,812	9,032,896	10,237,267	1,055,680	19,625,814	42,162,961	92.0	3,653,851	4,376,139	—678,778	—5,018,963
Green Bay & Western	March	224	383,646	.....	391,378	75,451	30,998	20,663	84,734	226,025	57.8	165,353	74,400	78,661	61,028
	3 mos.	224	1,083,826	.....	1,102,767	223,002	113,137	59,719	258,315	697,994	63.3	404,773	188,152	186,430	134,503
Gulf, Mobile & Ohio	March	2,898	6,454,093	408,115	7,271,194	1,141,152	1,460,220	241,863	2,219,823	5,393,563	74.2	1,877,631	890,107	732,369	605,928
	3 mos.	2,898	18,614,944	1,278,465	21,241,095	3,275,188	4,212,176	757,723	6,573,798	15,858,612	74.7	5,382,483	2,381,696	1,978,552	1,481,243
Illinois Terminal	March	462	821,878	85,726	1,001,149	140,038	157,113	37,717	410,815	796,470	79.6	204,679	103,866	80,991	79,222
	3 mos.	462	2,222,773	245,470	2,764,765	404,720	431,504	107,847	1,140,961	2,234,203	80.8	530,562	279,021	194,949	142,143
Illinois Central	March	6,539	21,293,730	1,925,739	25,607,007	4,028,069	4,637,275	497,186	9,468,436	19,710,150	77.0	5,896,857	Cr. 610,027	5,946,318	2,438,349
	3 mos.	6,539	60,350,675	5,606,153	72,569,058	11,029,227	13,105,080	1,497,100	27,337,526	56,052,541	77.2	16,516,517	5,309,448	9,831,566	6,193,646
Kansas City Southern	March	891	3,455,262	174,083	3,941,628	389,299	529,737	81,786	1,102,793	2,210,888	56.1	1,730,740	806,000	710,812	787,365
	3 mos.	891	9,937,062	441,560	11,273,175	1,097,508	1,325,744	236,872	3,211,965	6,208,094	55.1	5,065,081	2,441,000	1,989,863	2,241,554
Kansas, Oklahoma & Gulf	March	327	599,465	640	604,907	46,309	24,991	18,523	109,677	220,646	36.5	384,261	173,927	169,463	90,423
	3 mos.	327	1,649,334	1,741	1,665,974	113,529	104,132	54,983	330,739	664,694	39.9	1,001,280	459,212	431,145	276,662
Lake Superior & Ishpeming	March	156	86,306	—4	90,959	40,223	46,616	2,035	57,883	155,928	171.4	—64,969	27,390	—71,957	—110,738
	3 mos.	156	203,977	37	215,902	119,227	151,383	5,861	160,200	463,193	214.5	—247,291	80,160	—279,357	—307,834
Lehigh & Hudson River	March	96	273,811	.....	280,857	36,671	27,198	10,344	90,630	174,528	62.1	106,329	56,043	40,000	24,518
	3 mos.	96	802,799	.....	816,417	109,716	76,842	30,836	242,223	489,620	60.0	326,797	156,423	129,799	24,262
Lehigh & New England	March	191	573,674	.....	581,739	117,609	115,743	11,586	165,684	442,412	70.6	139,327	99,417	93,968	185,839
	3 mos.	191	1,841,352	.....	1,860,969	240,765	338,586	34,827	539,902	1,262,064	67.8	598,905	357,513	351,889	280,720
Lehigh Valley	March	1,229	5,699,394	304,735	6,260,628	817,908	1,312,080	140,304	2,625,897	5,134,465	82.0	1,126,163	540,439	557,548	830,697
	3 mos.	1,229	16,819,873	920,627	18,528,648	2,223,217	4,066,413	408,840	7,707,613	15,136,003	81.7	3,392,645	1,590,344	1,577,710	872,054
Long Island	March	365	1,266,874	2,456,253	3,942,503	601,044	904,643	14,526	2,370,479	4,044,078	102.6	—101,575	483,518	—882,675	—504,367
	3 mos.	365	3,521,255	7,341,623	11,508,067	1,727,507	2,480,914	36,331	6,847,396	11,513,015	100.0	—4,948	1,429,066	—2,269,914	—1,795,419

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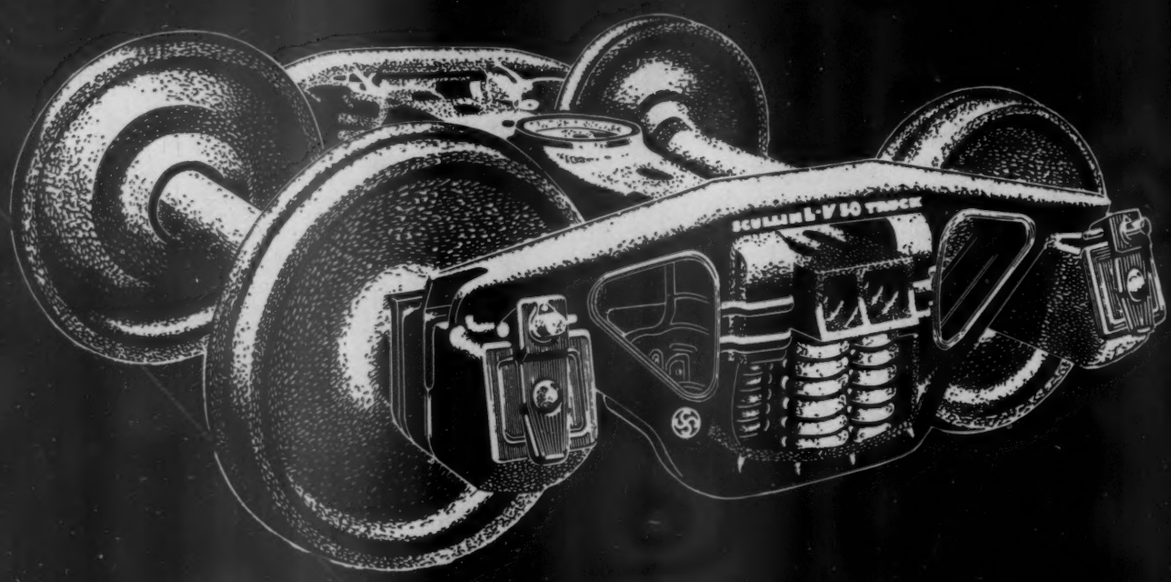

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
						Maintenance of									
			Freight	Passenger	Total (inc. misc.)	Way and structures	Equipment	Traffic	Transportation	Total				1951	1950
Louisiana & Arkansas	March	756	1,884,501	59,900	2,012,625	387,741	207,193	66,877	528,093	1,264,371	62.8	748,254	379,354	233,586	323,557
	3 mos.	756	5,425,001	192,200	5,832,786	1,059,980	661,046	194,143	1,583,628	3,714,013	63.7	2,118,773	1,052,527	681,063	940,616
Louisville & Nashville	March	4,778	16,928,638	1,119,180	19,163,946	2,619,045	4,048,018	338,303	7,251,540	14,946,791	78.0	4,217,155	2,880,864	1,817,764	1,811,637
	3 mos.	4,778	48,375,269	3,687,973	55,265,152	7,464,470	11,054,718	970,114	21,326,938	42,776,371	77.4	12,488,781	8,799,048	5,490,359	3,245,290
Maine Central	March	981	2,176,418	101,440	2,409,781	377,697	412,765	22,265	802,240	1,688,080	70.1	721,701	352,275	289,846	207,481
	3 mos.	981	6,114,368	332,560	6,805,241	1,099,953	1,129,072	61,897	2,295,058	4,792,930	70.4	2,012,311	1,003,708	812,956	587,194
Midland Valley	March	334	172,643	9	175,017	43,055	12,346	3,912	55,087	122,008	69.7	53,009	22,030	24,249	26,924
	3 mos.	334	514,639	25	522,344	111,744	42,525	12,187	159,977	348,782	66.8	173,562	70,026	72,521	95,519
Minneapolis & St. Louis	March	1,406	1,672,398	8,536	1,738,690	303,355	258,245	115,918	612,485	1,404,233	80.8	334,457	177,296	100,671	191,287
	3 mos.	1,406	4,945,395	45,474	5,157,319	852,095	769,712	341,236	1,744,778	4,044,531	78.4	1,112,788	607,064	346,786	255,623
Minneapolis, St. Paul & S. Ste. Marie	March	3,224	2,396,063	63,141	2,587,235	609,046	678,510	68,998	1,356,736	2,828,387	109.3	—241,152	202,129	—480,867	48,647
	3 mos.	3,224	7,218,666	195,067	7,803,182	1,595,508	1,949,161	206,386	3,825,058	7,919,538	101.5	—116,356	619,806	—764,265	—909,109
Mississippi Central	March	148	197,776	—97	201,566	39,905	28,396	12,993	59,106	149,413	74.1	52,153	23,807	15,271	14,976
	3 mos.	148	596,928	—100	609,252	118,349	83,547	38,835	171,158	441,507	72.5	167,745	69,394	57,908	40,871
Missouri-Illinois	March	172	453,695	172	464,325	68,047	60,508	9,015	118,252	259,495	55.9	204,830	140,583	73,202	70,278
	3 mos.	172	1,241,948	476	1,265,392	176,357	186,997	24,101	330,228	738,132	58.3	527,260	352,905	199,497	196,044
Missouri-Kansas-Texas Lines	March	3,243	5,934,164	419,889	6,955,550	953,679	997,982	236,274	2,551,552	5,057,852	72.7	1,897,698	875,833	699,295	651,174
	3 mos.	3,243	16,826,315	1,604,023	20,143,199	2,573,347	2,880,813	699,720	7,515,325	14,624,808	72.6	5,518,391	2,646,864	1,987,581	1,616,205
Missouri Pacific	March	6,960	18,040,361	911,938	20,734,759	3,093,257	3,962,752	456,994	7,685,197	15,831,295	76.4	4,903,464	2,158,691	2,300,859	1,897,389
	3 mos.	6,960	49,467,777	2,961,191	57,472,801	9,112,904	11,032,699	1,318,393	22,006,913	45,339,327	78.9	12,133,474	4,958,012	5,776,077	4,794,577
Gulf Coast Lines	March	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....
	3 mos.	.....	.....	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	.....	.....
International-Great Northern	March	1,104	2,798,177	206,462	3,280,931	701,583	545,196	52,709	1,219,690	2,649,942	80.8	630,989	176,891	301,491	296,200
	3 mos.	1,104	7,583,791	761,490	9,136,942	1,965,913	1,527,698	154,590	3,596,549	7,652,791	83.8	1,484,151	428,957	668,717	940,373
Monongahela	March	178	746,446	43	750,321	90,908	96,243	1,233	269,196	470,749	62.7	279,572	65,169	64,833	128,751
	3 mos.	178	2,008,309	—1	2,021,160	245,188	255,946	3,415	749,321	1,276,919	63.2	744,241	193,684	128,568	—151,676
Montour	March	51	170,125	.....	170,804	20,754	66,204	948	78,602	175,116	102.5	—4,312	33,587	22,480	47,335
	3 mos.	51	603,823	.....	605,697	43,582	238,374	2,534	261,055	573,300	94.7	32,397	112,738	93,310	92,355
Nashville, Chatt. & St. Louis	March	1,049	2,845,284	180,178	3,300,627	505,805	496,784	115,775	1,199,452	2,442,793	74.0	857,834	441,963	402,901	285,722
	3 mos.	1,049	8,031,096	547,065	9,368,623	1,393,510	1,334,174	337,413	3,418,362	6,830,583	72.9	2,538,040	1,340,972	1,203,286	930,516
New York Central	March	10,727	53,519,428	9,252,369	70,637,786	8,631,979	14,709,530	1,087,306	32,939,704	60,503,972	85.7	10,133,814	5,089,496	3,330,607	2,472,102
	3 mos.	10,727	145,347,642	27,930,721	193,447,974	25,748,339	42,246,779	3,181,402	94,554,000	175,053,601	90.5	18,394,373	15,041,580	—2,363,671	—954,644
Pittsburgh & Lake Erie	March	221	3,750,815	80,520	4,077,031	461,565	1,161,411	70,402	1,470,687	3,377,157	82.8	699,874	743,691	784,127	688,312
	3 mos.	221	10,957,781	258,065	11,831,379	1,408,199	3,373,205	217,490	4,448,999	10,060,649	85.0	1,770,730	2,041,081	1,939,718	1,462,529
New York, Chicago & St. Louis	March	2,192	13,789,434	140,965	14,307,328	1,589,324	2,342,224	329,731	4,824,232	9,538,215	66.7	4,769,113	2,167,682	2,187,547	2,477,221
	3 mos.	2,192	37,082,385	498,581	38,692,965	4,472,123	6,425,798	921,102	13,936,386	27,051,504	69.9	11,641,461	5,307,283	4,932,425	5,150,584
New York, New Haven & Hartford	March	1,794	8,410,011	3,638,982	13,375,654	2,061,504	2,143,446	182,607	5,785,700	10,828,526	81.0	2,547,128	910,000	740,219	507,873
	3 mos	1,794	23,047,867	11,130,469	37,951,458	5,395,118	6,186,464	527,541	16,801,295	30,850,908	81.3	7,100,550	2,695,000	1,759,722	2,201,581
New York Connecting	March	21	307,031	.....	321,470	78,216	19,191	.....	68,323	168,433	52.4	153,037	64,923	126,216	80,614
	3 mos.	21	781,279	.....	807,860	231,711	39,358	.....	176,033	454,658	56.3	353,202	202,007	231,481	153,473
New York, Ontario & Western	March	542	571,935	—10	597,216	101,348	87,107	25,577	283,901	529,352	88.6	67,864	36,469	—39,785	—52,575
	3 mos.	542	1,695,285	234	1,773,135	280,033	252,157	75,656	834,639	1,531,886	86.4	241,249	107,854	—71,086	—315,789
New York, Susquehanna & Western	March	120	422,933	40,970	481,909	51,710	56,505	8,885	201,201	344,461	71.5	137,448	47,683	49,488	39,490
	3 mos.	120	1,168,351	120,756	1,343,135	151,065	150,991	25,104	571,229	975,980	72.7	367,155	110,666	142,739	141,415
Norfolk & Western	March	2,135	15,659,872	511,129	16,894,472	2,299,924	3,514,387	296,556	5,029,868	11,733,030	69.4	5,161,442	3,793,678	2,515,796	2,975,825
	3 mos.	2,135	43,615,550	1,413,546	46,971,515	6,551,259	10,070,698	838,169	14,743,118	33,949,277	72.3	13,022,238	9,780,109	6,475,742	3,788,134
Norfolk Southern	March	643	933,445	.....	954,862	166,835	114,952	45,652	304,253	705,310	73.9	249,552	124,380	81,248	58,861
	3 mos.	643	2,623,685	29	2,696,795	475,865	335,595	136,809	892,034	2,049,991	76.0	646,804	324,988	198,313	141,094
Northern Pacific	March	6,887	10,956,080	682,544	12,558,506	2,045,552	2,916,766	281,272	5,377,875	11,288,086	89.9	1,270,420	1,192,870	507,098	426,400
	3 mos.	6,887	30,534,684	1,790,670	34,969,690	5,560,085	8,099,204	780,813	15,244,926	31,604,779	90.4	3,364,911	3,501,668	1,383,369	—2,937,424
Northwestern Pacific	March	331	976,757	4,150	1,007,898	234,588	109,513	4,795	438,164	803,181	79.7	204,717	50,452	80,831	54,965
	3 mos.	331	2,428,042	10,991	2,506,202	700,519	289,025	12,931	1,158,743	2,208,839	88.1	297,363	146,372	—51,806	— 20,265
Oklahoma City-Ada-Atoka	March	132	107,211	—71	108,342	20,697	9,827	1,540	23,376	59,462	54.9	48,880	21,731	14,901	32
	3 mos.	132	280,498	—71	283,340	57,278	14,955	4,817	66,812	154,378	54.5	128,962	57,427	36,095	14,520
Pennsylvania	March	10,127	67,840,224	12,488,396	88,112,947	9,523,784	23,134,052	1,279,847	38,621,710	75,693,867	85.9	12,419,080	5,639,743	5,078,244	5,159,607
	3 mos.	10,127	180,974,164	37,489,930	239,640,356	28,211,509	63,470,128	3,829,313	112,285,798	217,300,473	90.7	22,339,883	15,450,102	2,314,173	7,372,103
Pennsylvania-Reading Seashore Lines	March	365	593,151	100,565	734,778	273,909	83,694	9,525	550,037	956,504	130.2	—221,726	96,408	—435,486	—601,952
	3 mos.	367	1,637,126	319,411	2,064,238	728,025	272,286	27,563	1,611,955	2,748,409	133.1	—684,171	283,892	—1,337,953	—1,873,867

Table continued on next right-hand page

THE SPECTACULAR *Mid-Century* "EMPIRE BUILDER" BOWS IN... NEW YORK AIR BRAKE EQUIPMENT AGAIN ADDS TO PASSENGER COMFORT

ANOTHER even more luxurious "Empire Builder" is making the fast 45-hour run between Chicago and Seattle. With completely new make-up from stem to stern, this famous transcontinental streamliner begins a new era of super-modern passenger service to and from the fast-growing Pacific Northwest.

New York uniform-acting electro-pneumatic brakes are standard equipment on the 75 new cars comprising the five Mid-Century "Empire Builders"—also on enough new cars to make up an additional train which is being used along with the original "Empire Builder" equipment, on a new companion streamliner—the "Western Star."

Again, The New York Air Brake Company has made a significant contribution to passenger comfort and the maintenance of precise and safe schedules.

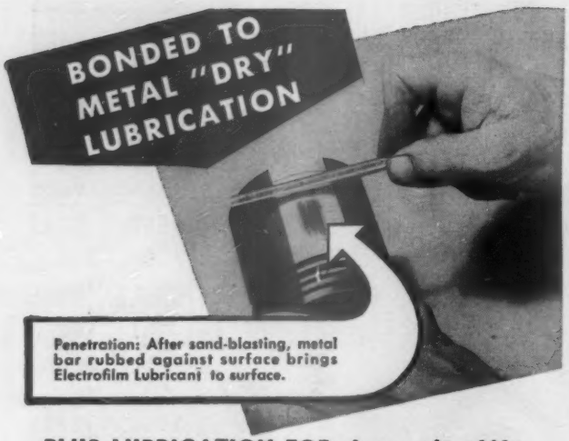
The New York Air Brake Company

420 Lexington Ave., New York 17, N.Y. Plant: Watertown, N.Y.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF MARCH AND THREE MONTHS OF CALENDAR YEAR 1951

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1951	1950
Pittsburg & Shawmut	March	97	178,742	.....	180,345	22,362	68,475	3,747	49,868	152,628	84.6	27,717	5,377	22,922	100,045
	3 mos.	97	600,649	.....	605,680	62,131	174,029	10,408	166,865	437,156	72.2	168,524	41,290	118,105	133,982
Pittsburgh & West Virginia	March	132	784,263	.....	790,539	120,776	162,260	48,992	211,048	568,727	71.9	221,812	130,702	158,812	109,163
	3 mos.	132	2,060,312	.....	2,093,440	360,669	467,646	144,738	590,237	1,643,856	78.5	449,584	283,615	353,966	266,509
Reading	March	1,313	9,660,529	597,234	10,972,612	1,448,539	2,201,696	140,589	4,507,476	8,651,101	78.8	2,321,511	1,247,409	1,068,866	1,246,556
	3 mos.	1,314	27,663,655	1,742,224	31,423,469	3,957,034	6,311,870	411,645	13,079,443	24,749,515	78.8	6,673,954	3,558,538	3,073,112	2,221,034
Richmond, Fredericksburg & Potomac	March	118	1,564,773	670,702	2,515,650	282,755	282,150	21,842	804,033	1,531,936	60.9	983,714	492,819	379,897	254,653
	3 mos.	118	4,280,917	1,896,717	6,890,231	719,926	808,471	58,793	2,251,178	4,249,196	61.7	2,641,035	1,347,553	1,009,709	672,275
Rutland	March	407	398,006	23,527	496,137	93,171	87,074	15,365	267,134	487,649	98.3	8,488	38,717	—49,467	—22,957
	3 mos.	407	1,098,882	80,267	1,387,710	254,733	257,779	44,032	765,801	1,386,701	99.9	1,009	101,883	—158,433	—166,818
Sacramento Northern	March	271	262,914	53	267,965	65,374	19,615	1,891	87,593	182,825	68.2	85,140	20,651	48,378	—19,892
	3 mos.	271	779,755	67	796,332	168,038	55,793	6,203	251,545	506,771	63.6	289,561	46,697	191,029	30,001
St. Louis-San Francisco	March	4,635	9,575,075	603,493	10,926,373	1,618,413	1,703,405	265,084	3,971,374	8,020,445	73.4	2,905,928	1,670,161	1,290,651	1,303,331
	3 mos.	4,635	26,176,004	2,018,521	30,291,054	4,920,745	5,106,733	775,630	11,264,838	23,427,286	77.3	6,863,768	3,966,125	3,144,114	2,513,311
St. Louis, San Francisco & Texas	March	159	322,557	13,521	364,509	47,723	33,761	18,139	149,341	259,949	71.3	104,560	27,449	26,342	26,688
	3 mos.	159	1,037,740	32,500	1,146,860	138,692	104,413	54,867	426,690	757,769	66.1	389,091	144,376	101,502	8,284
St. Louis Southwestern Lines	March	1,569	6,318,632	34,272	6,570,941	593,054	736,377	154,032	1,817,269	3,477,877	52.9	3,093,064	1,836,373	1,024,423	947,313
	3 mos.	1,569	16,477,863	156,911	17,216,469	1,656,806	1,970,910	452,365	5,148,242	9,751,486	56.6	7,464,983	4,123,264	2,583,293	2,243,093
Seaboard Air Line	March	4,146	11,800,853	1,569,846	14,374,858	2,532,010	2,308,527	352,606	4,724,962	10,499,348	73.0	3,875,510	1,871,706	1,661,911	1,553,507
	3 mos.	4,146	33,068,370	4,515,083	40,315,434	6,852,728	6,623,440	1,026,346	13,408,007	29,569,122	73.3	10,746,312	5,189,976	4,497,572	3,632,413
Southern	March	6,344	19,685,909	1,457,783	22,744,970	2,954,930	4,039,342	408,114	8,036,432	16,289,002	71.6	6,455,968	2,741,234	3,042,317	2,886,879
	3 mos.	6,344	54,713,998	4,486,281	63,477,485	8,810,078	11,848,267	1,175,185	22,693,601	47,041,135	74.1	16,436,350	7,569,603	6,795,302	6,475,470
Alabama Great Southern	March	316	1,413,822	73,181	1,600,155	234,573	418,213	34,295	627,039	1,375,689	86.0	224,466	196,931	82,436	134,211
	3 mos.	316	4,029,607	265,561	4,632,438	658,785	1,151,529	99,017	1,687,382	3,764,501	81.3	867,937	643,122	359,960	438,841
Cinn., New Orleans & Texas Pacific	March	336	3,548,079	190,401	3,927,315	464,826	764,603	64,964	1,042,363	2,463,215	62.7	1,464,100	939,026	601,116	648,176
	3 mos.	336	9,320,924	697,313	10,544,515	1,335,855	2,287,732	188,866	2,881,722	7,066,117	67.0	3,478,398	2,206,609	1,512,185	1,635,207
Georgia Southern & Florida	March	397	577,775	116,392	756,199	179,887	66,240	7,848	248,548	526,749	69.7	229,450	62,929	51,389	29,351
	3 mos.	397	1,653,984	317,949	2,144,394	484,222	187,140	23,313	667,354	1,438,151	67.1	706,243	210,730	164,053	146,998
New Orleans & Northeastern	March	203	1,008,747	48,137	1,108,720	170,530	123,746	21,033	258,994	618,411	55.8	490,309	295,128	174,871	168,618
	3 mos.	203	2,838,107	151,368	3,134,305	495,540	352,259	59,420	742,401	1,770,261	56.5	1,364,044	809,021	459,577	389,771
Southern Pacific	March	8,129	36,276,988	3,589,645	42,282,687	4,672,350	8,977,844	743,047	15,818,929	32,118,564	76.0	10,164,123	5,756,055	3,628,805	2,457,823
	3 mos.	8,129	100,712,669	10,260,674	117,719,332	13,689,963	24,392,710	2,211,705	44,807,094	90,793,820	77.1	26,925,512	15,071,554	9,007,563	3,695,652
Texas & New Orleans	March	4,315	10,708,519	759,118	12,260,291	1,885,046	1,956,799	246,622	4,503,807	9,110,914	74.3	3,149,377	1,491,682	1,091,020	912,393
	3 mos.	4,315	29,959,512	2,406,289	34,556,571	5,569,435	5,258,318	710,373	12,888,753	26,001,048	75.2	8,555,523	3,972,652	2,763,946	2,501,008
Spokane International	March	152	185,383	1,114	199,760	49,242	23,639	4,568	56,256	144,083	72.1	55,677	10,533	34,993	74,475
	3 mos.	152	474,966	3,084	517,125	179,418	64,183	14,148	155,384	441,103	85.2	76,022	31,953	10,851	53,540
Spokane, Portland & Seattle	March	931	2,037,316	78,415	2,239,126	343,530	296,261	24,604	753,343	1,505,710	67.2	733,416	186,434	484,174	294,831
	3 mos.	931	5,615,591	230,910	6,198,416	1,029,074	821,470	73,795	2,085,763	4,259,488	68.7	1,938,928	539,464	1,214,409	435,835
Tennessee Central	March	286	375,841	10,796	413,150	90,568	72,566	11,149	153,961	348,593	84.4	64,557	28,658	8,791	75,463
	3 mos.	286	1,134,234	51,935	1,256,374	262,225	209,152	31,358	438,225	999,295	79.5	257,079	77,189	73,893	124,533
Texas & Northern	March	8	99,745	.....	115,706	14,166	9,473	1,147	32,214	60,867	52.6	54,839	22,773	20,114	25,703
	3 mos.	8	282,146	.....	322,266	31,561	27,625	3,425	88,938	164,162	50.9	158,104	54,860	66,580	43,638
Texas & Pacific	March	1,846	5,779,521	370,374	6,658,407	911,410	998,708	162,044	2,169,394	4,557,330	68.4	2,101,077	1,038,527	733,502	625,890
	3 mos.	1,846	15,983,646	1,204,960	18,627,023	2,490,224	2,767,640	482,604	6,222,823	12,883,794	69.2	5,743,229	2,587,637	2,065,931	1,824,283
Texas Mexican	March	162	279,772	.....	318,659	74,848	36,689	7,180	63,929	201,433	63.2	117,226	50,741	50,799	45,667
	3 mos.	162	725,672	.....	813,473	192,057	88,413	19,681	186,231	538,764	66.2	274,709	109,817	109,407	160,081
Toledo, Peoria & Western	March	239	597,837	.....	606,037	89,592	41,126	46,631	129,801	346,738	57.2	259,299	137,888	76,472	79,022
	3 mos.	239	1,851,355	2	1,872,736	208,458	109,434	135,159	421,096	967,970	52.2	895,766	462,011	264,893	215,281
Union Pacific	March	9,720	36,643,094	2,778,066	42,257,609	5,220,306	8,287,713	915,662	14,695,821	31,068,450	73.5	11,189,159	6,944,116	3,137,445	3,197,117
	3 mos.	9,720	99,190,797	7,937,742	114,697,405	13,325,826	23,374,756	2,626,781	41,610,773	86,903,510	75.8	27,793,895	18,240,784	6,319,394	4,771,599
Utah	March	110	78,767	.....	79,850	17,449	51,778	775	42,787	120,091	152.3	—41,241	11,345	—42,145	16,828
	3 mos.	110	289,850	.....	290,914	48,184	155,809	2,372	154,402	382,867	131.6	—91,953	33,827	—101,597	—74,065
Virginian	March	643	3,710,605	2,541	3,842,539	407,428	777,571	41,132	841,636	2,145,831	55.8	1,696,708	1,130,500	768,668	926,959
	3 mos.	643	10,290,382	6,856	10,632,166	1,145,935	2,237,955	122,075	2,385,007	6,142,034	57.8	4,490,132	2,942,500	2,175,878	1,194,652
Wabash	March	2,393	9,075,313	391,869	10,120,652	1,155,330	1,244,533	258,830	3,997,214	7,010,255	69.3	3,110,397	1,362,626	1,188,091	857,752
	3 mos.	2,393	24,866,715	1,259,393	28,076,679	3,188,857	3,615,331	783,622	11,549,860	20,111,127	71.6	7,965,552	3,438,104	2,818,892	1,844,412
Ann Arbor	March	294	826,759	.....	833,518	74,036	110,348	24,304	331,379	558,427	67.0	275,091	121,557	117,905	120,813
	3 mos.	294	2,302,098	.....	2,320,230	225,826	316,858	71,236	958,628	1,623,093	70.0	697,137	326,542	282,836	276,996
Western Maryland	March	837	4,179,862	7,656	4,392,707	570,648	819,296	79,630	1,358,521	2,975,427	67.7	1,417,280	795,000	799,587	750,954
	3 mos.	837	11,922,894	22,853	12,493,259	1,587,178	2,369,829	232,338	3,924,212	8,572,528	68.6	3,920,731	2,283,000	2,242,403	1,319,650
Western Pacific	March	1,193	4,319,625	268,961	4,672,360	620,942	739,351	164,072	1,283,159	3,037,078	65.0	1,635,282	770,437	733,634	349,509
	3 mos.	1,193	12,207,013	670,542	13,120,887	1,635,770	1,950,847	521,365	3,683,446	8,434,982	64.3	4,685,905	2,115,441	2,292,080	1,049,438
Wisconsin Central	March	1,051	2,306,792	30,483	2,446,248	304,567	449,907	62,513	1,137,699	2,049,835	83.8	396,413	140,080	56,259	272,707
	3 mos.	1,051	6,457,504	92,985	6,870,595	842,464	1,542,110	186,561	3,262,909	6,112,116	89.0	758,479	486,447	—271,309	362,556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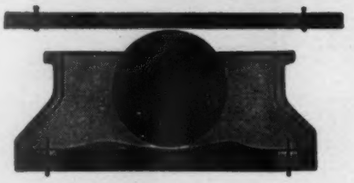

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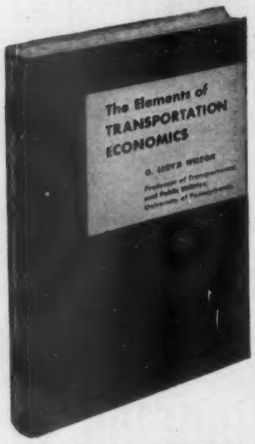

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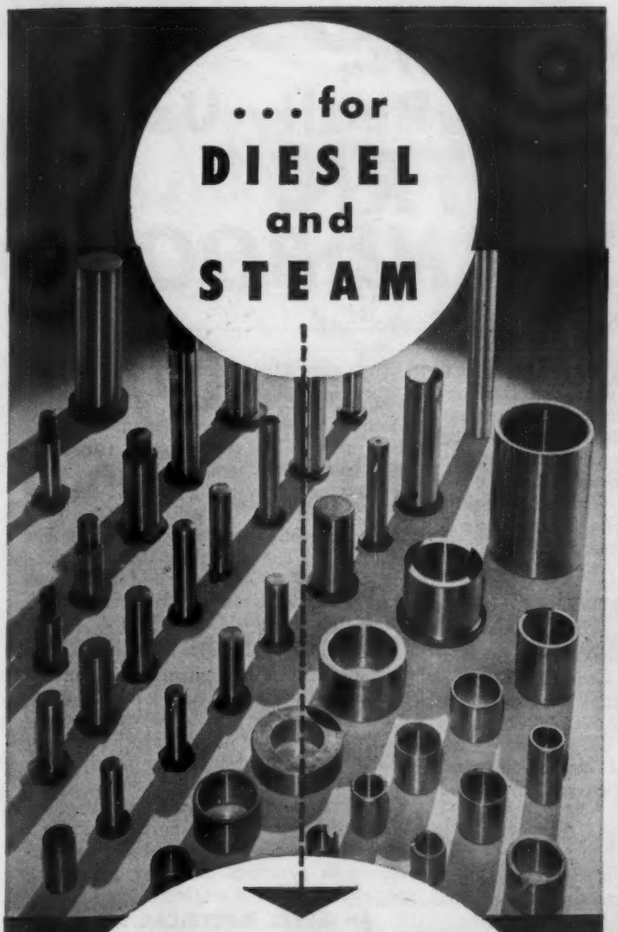

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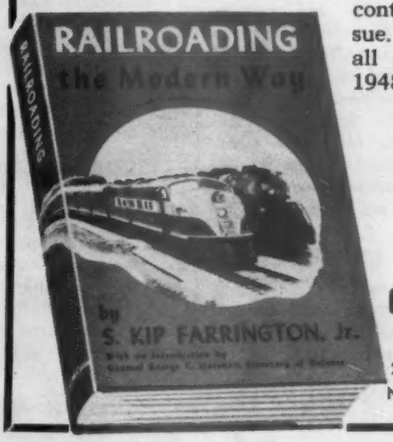

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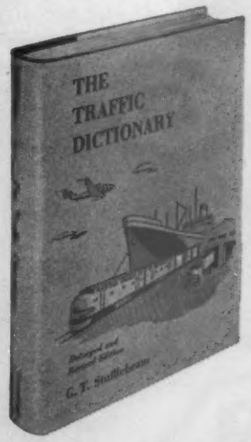

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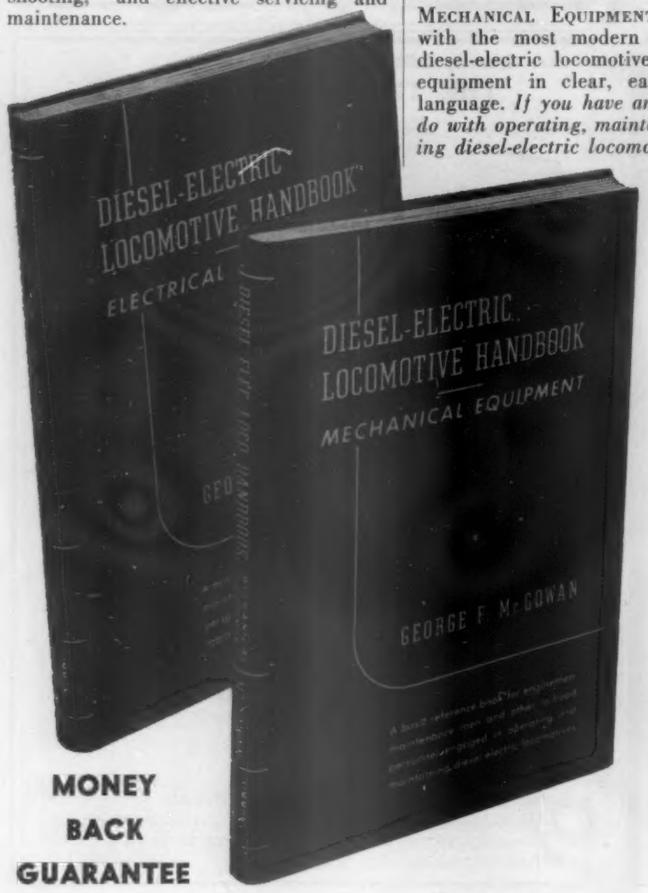

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